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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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RESOLUTIONS OF CONDOLENCE.

A special meeting of the Lake Carriers' Association was held at the office of J. C. Gilchrist, Cleveland, on Friday, to take appropriate action on the death of David Carter, of Detroit. James Corrigan acted as chairman of the meeting, and George P. McKay as secretary. A committee consisting of T. F. Newman, John Mitchell, Harvey D. Goulder, and H. Coulby were appointed to report suitable resolutions and to attend the funeral as representing the association to be held at Detroit. A general invitation was extended by the Detroit & Cleveland Navigation company, of which Mr. Carter was manager, to all members of the Association to attend the services at Detroit Saturday; going and returning on the company's steamer.

The committee appointed reported the following resolutions:

"The members of the Lake Carriers' Association, many of whom were life-long, personal friends of David Carter, of Detroit, learn with deep regret of his death, and in consonance with the esteem and personal regard in which he was held by all, record is here made. His long connection with the marine interests of the lakes made him known to all, and brought him into close, personal association with many of us. No one was held in more kindly regard; the judgment of none carried greater weight in the councils called from time to time in the common interest of all. By his death we lose a clear-minded, reliable, consistent associate; a kindly, considerate, trustful friend. At all times, in all places, and to all men, he was a whole-souled, conscientious, tolerant, Christian gentleman. Therefore, be it

"Resolved, That we, as friends and associates of the deceased, hereby make due acknowledgment of our loss and extend to the widow and family of the deceased our sympathy in their greatest loss. That a committee of this association attend the burial services and that as many of the members attend as may be able, and that all vessels belonging to the association fly their colors at half mast on Saturday, November 23, 1901. That a record of this memorial be made upon the books of the association and copies transmitted to the family of the deceased and to the Detroit & Cleveland Navigation Company, to which and its predecessor he gave long, continuous, progressive endeavor."

HAMBURG SHIPPING.

The number of ships which entered the port of Hamburg in the first nine months of this year was 9,937, of an aggregate burden of 6,418,593 tons, as compared with 10,121 ships of an aggregate burden of 6.099,687 tons, in the corresponding period of 1900. Steamers figured in these totals for 5,722,246 tons, and 5,460,647 tons respectively. The number of ships cleared from Hamburg in the first nine months of this year was 9,842, of an aggregate burden of 6,355,813 tons, as compared with 10,106 ships, of aggregate burden of 6.140,234 tons in the corresponding period of 1900. Steamers figured in these totals for 5,670,599 tons and 5,483,174 tons respectively.

GERMAN SHIPBUILDING.

In the department of shipbuilding Germany still shows an unimpaired and extraordinary activity. There are in the industrial history of the world few chapters comparable to that which records the development of steel ship construction in that country since 1890. From the most trustworthy statistics that can be obtained it appears that there were in construction during 1900 in private German yards on home or foreign account, and in foreign yards on German account, 693 vessels of 763,284 gross tons register. Of these, 493 were steamers, with an aggregate registry of 700,848 gross tons. The 200 sailers built last year registered 62,436 tons, an average of 312, which shows that they were mainly small vessels for fishery and the coasting trade. Of the total number on the stocks, 447 vessels of 382,072 tons gross were completed during the year, leaving 297 in construction at the end of December, most of which have since been finished and put into commission. Altogether, there were launched in 1890 from German yards 385 vessels, and in foreign yards for German owners 62, an aggregate output of 447 ships of 382,070 gross tons register. Deducting from this the 194 vessels of 112-868 tons built in German shipyards for foreign owners, it is found that 253 vessels of 269,202 tons were added to the merchant marine under the German flag during the year.

The following interesting comparison of the tonnage of the leading steamship lines of the several maritime nations at the close of 1900 will show how valiantly the two principal German companies maintain their position in the front rank:

Line.	Flag.	Tonnage.
Hamburg-American Line	German	615,000
North German Lloyd	"	540,000
British India Steamship Navigation Company	British	380,000
Elder Dempster, Limited	"	375,000
Leyland (Morgan)	American	325,000
Peninsular and Oriental	British	315,000
Union Cape Line	"	245,000
Messageries Maritimes	French	245,000
Nippon Upsau Kaischa	Japanese	195,000
Navigazione Generale	Italian	180,000
Russian Shipping and Commercial Company	Russian	165,000
Austrian Lloyd	Austrian	155,000
Forenede Dampskips	Danish	130,000

The contest for speed supremacy in the trans-Atlantic passenger and mail traffic seems to have been definitely abandoned by other maritime nations to Germany, and it is now a duel between the two leading German lines, whose experience has demonstrated what had been previously doubted, viz., that the largest and fastest ships, however great the cost of adding a knot or two per hour to their speed, are the most profitable, and are preferred by the class of trans-Atlantic travelers who are ready and eager to pay extravagant rates for passage on lines which can cut down the transit from continent to continent by a few hours only. Of the 21 steamships of 10,000 tons or over which were floated in 1898, England owned 6, Germany 10, the United States 4, and Holland 1. In 1901, are 61 of these leviathans in commission, of which 26 fly the British flag, 24 belong to Germany, 6 to the United States, 3 to Holland, and 2 to France.

Not only were the shipbuilding industries in Germany active during the past year, but from all that can be ascertained they were exceptionally profitable. It is stated in a leading financial journal that the aggregate dividends paid by thirteen of the largest German shipyards in 1900 amounted to 107.5 per cent. of their actual capital, as against 68 per cent. in 1896. One company, the Flensburg, paid 18 per cent. on its entire stock; and the Vulcan company, of Stettin and Bremen, which builds the greyhounds for the North German Lloyd and Hamburg-American companies, paid 12 per cent. on its shares. Notwithstanding the troubles in Asia, which reacted more or less upon all eastern trade, the freight carried on the subsidized lines of the North German Lloyd Company to China and Australasia amounted to 190,584 tons, valued at 180,421,000 marks, against 179,719 tons, valued at 165,268,000 marks, in 1898. These totals do not include the precious metals, which form a large percentage of the valuable freight carried by these lines.

MEETING OF NAVAL ARCHITECTS.

At the meeting of the Society of Naval Architects and Marine Engineers, in New York, last week, the following officers were elected for the year: Clement A. Griscom, president; Francis M. Bowles, Chas. H. Cramp, Frank L. Fernald, Philip Hichborn, Chas. H. Loring, Geo. W. Melville, Geo. W. Quintard, Wm. T. Sampson, Irving M. Scott, and Edward A. Stevens, vice-presidents; Washington L. Capps, secretary and treasurer. Members of the council elected—W. Irving Babcock, Washington L. Capps, French E. Chadwick, Jas. E. Denton, Geo. W. Dickie, Wm. F. Durand, Edward Farmer, Nathaniel G. Herreshoff, Wm. H. Jacques, John C. Kafer, Frank B. King, Frank E. Kirby, Walter M. McFarland, Jacob W. Miller, Lewis Nixon, Cecil H. Peabody, Walter A. Post, Harrington Putnam, Horace See, E. Platt Stratton, Stevenson Taylor, Geo. E. Weed, Prof. J. N. Holtes and Naval Constructor D. W. Taylor. The members of the Executive Committee elected are as follows: Francis T. Bowles, chairman; H. T. Gause, Harrington Putman, Lewis Nixon, Edwin A. Stevens, Clement A. Griscom, ex-officio. There was a large attendance at the morning session when Stevenson Taylor, vice-president of the W. & L. Fletcher Co., acting chairman in the absence of President Griscom, called the meeting to order. Among those present were: P. W. Kemble, Naval Constructor W. L. Capps, Prof. Alex. J. McLean, Chas. H. Cramp, C. P. Smith, R. C. Veit, Naval Constructor John F. Hanscom, Thos. F. Rowland, Frank B. King, Chief Engineer Franz Kevitch, Lieut. Madedonsky, of the Imperial Russian Navy, and Col. Petroff, now visiting Cramp's shipyards. The following papers were read at the session of the Nov. 14: "Trials of Speed Between the Steamers City of Erie and Tashmoo," by Frank E. Kirby, member of Council; "Effect of Variation of Dimension on the Stresses in a Ship's Constructure," by Prof. H. C. Sadler, member; "Power Consumed in Propelling the Whitehead Torpedo at Various Speeds," by Frank M. Leavitt, member; "Balancing Marine Engines" (prize competition paper), Rear-Admiral Geo. W. Melville U. S. Navy; "Balancing Marine Engines" (prize competition paper), by Naval Constructor D. W. Taylor, U. S. Navy.

SHIPBUILDING CENSUS FIGURES.

A. F. Tennille, writing to the American Machinist, says:

A preliminary report of the census covering a part of the manufacturing industries of the United States shows that during the ten years from 1890 to 1900 there has been an increase in the number of shipbuilding establishments in the United States from 1,006 to 1,083, or 7.7 per cent. These, and all the subsequent figures, relate to those outside of government control.

The capital invested increased during the ten years from $27,262,892 to $76,699,651, or 181.3 per cent., while the number of wage earners increased from 22,143 to 46,121, or 108.3 per cent.

Of the expenditures, the following is reported: The expenditure for wages has increased from $13,083,949 to $24,-388,109, or 86.4 per cent.; under the head of miscellaneous expense there has been an increase from $1,392,551 to $3,-582,257, or 157.2 per cent. The cost of material used in 1890 was reported as being $16,521,146, whereas in 1900 it was $33,031,280.

The total value of production in all these various establishments has, including custom work and repairing, increased from $38,065,410 to $73,444,753, or 92.9 per cent.

NO BENEFIT TO THE SERVICE.

In a letter addressed to the inspectors of the different life-saving districts of the United States, General Superintendent S. I. Kimball states that a concern styled the United States Lifesavers' National Benefit Association has been incorporated under the laws of the State of Maine for the alleged purpose of publishing and selling a history of the United States life-saving service, and that agents sent out by the concern soliciting subscriptions in various parts of the country on the strength of a statement that the money obtained is to be used for the benefit of ex-life savers of the United States life-saving service and their families General Superintendent Kimball desires it to be understood that neither the life-saving service nor any of its officers have anything to do with the project or any connection with it whatever.

CHICAGO.

Special Correspondence to The Marine Record.

Grain rates are fluctuating from 1¾ cents on corn to 2½ cents as the best figure offered on wheat, and shippers guessing on vessels making one or more trips.

Grain was slow at 2 cents on Monday for corn and little improvement in sight, so that the closing days of the season are not any too good from a vessel owner's standpoint.

The Light-House Board are taking away the lightships from the north end of the lake and heavy losses are anticipated, spar buoys are nothing on Gray's Reef, White Shoals, the Simmons or Lansing. There should be some way of keeping these dangerous spots marked until the close of navigation and the Light-House Board ought to be big enough to know how to do it.

The local inspector of boilers for the steamboat service has ben elected a member of the society of Naval Architects and Marine Engineers.Mr. Stewart H. Moore is fully entitled to all the honors of this membership of trade. A meeting of the representatives of the dredging companies around the lakes in the interest of the proposed dredging trust was held on Monday at the Auditorinm. Plans for the organization were submitted to the firms, and the offers were taken under advisement.

Word comes from Manitowoc that the tow barge Bryn Mawr, owned by the steel trust, was libeled for $20,000 by Manager Burke, of the People's Transit Company, for damages done to the passenger steamer Lawrence in the river. When the Bryn Mawr was turning around in the river, she collided with the Lawrence, breaking a hole in the steamer, which was only saved from sinking by the prompt assistance from the tug Arctic. Bonds were furnished by the steel trust and the Bryn Mawr released and proceeded.

Marine underwriters here, at Montreal, and at Toronto have been asked to extend the period of insurance from December 12, which was the limit up to two years ago. The pressure on the underwriters is the greatest from the Canadian grain shippers, who are anxious to move as much grain as possible before navigation closes. Unless there is a marked improvement in the weather I learn that it is not likely that the requests will be granted. It is almost a foregone conclusion that unless a heavy premium is paid not one day will be granted beyond the policy limit.

Capt. A. B. Wolvin ,who is connected with the American Ship Building company, the Great Lakes Towing company, and manager of the steel trust's fleet of lake boats, together with Edward Smith, of Buffalo, who is associated with Mr. Wolvin in many projects, have taken up the matter of promotion and led in the discussion. The legal end of the negotiations is taken care of by the lawyer firm of Hoyt, Dustin & Kelley, of Cleveland, represented in the meeting by Mr. Hoyt. The firm which will agree to sell out to the trust will be required to sign an agreement not to go into the business again for ten years. Some dissatisfaction is expressed at the prices offered by the promoters, one dredge man remarking that he could make an equal sum in two years' work under ordinary circumstances. Among the firms represented were: James Rooney and G. H. Breymann, of Toledo; Hingston & Wood and Dunbar & Son, of Buffalo; W. A. Collier, and L. P. & J. A. Smith Company, of Cleveland; Robert Smith, of Duluth, and Lydon & Drews, Fitzsimons & Connell, of Chicago, and Hausler & Lutz, of South Chicago.

Bids for tug service to the waterworks cribs during the coming winter were opened in the office of the city engineer last Friday afternoon, but the contract was not awarded. The specifications called for two tugs, one small enough to run around the Chicago avenue crib inside of the breakwater, and the other a large-sized craft, of strength and power sufficient to break ice eight inches in thickness. The bids were three in number, and were as follows: Louis Holman, owner of the tugs M. Shields and James Hay, for each of the two boats per month, $968; for all extra work that may be required, $6 per hour. The Great Lakes Towing and Wrecking Company, for each of two tugs per month, $1,975; for extra work, $8 per hour. Lydon & Drews, for each of two tugs, $2,500 per month; for extra work, $10 per hour. Some comment was made among marine men on Holman's bid, as they were of the opinion that while one of the tugs might be able to do the work at the crib, where it would be protected from running ice, neither is of the size and power required in the specifications for the heavy boat to break ice in bad weather. This makes the bid of the Great Lakes Company the lowest remaining. The winter work begins Jenuary 1 this year, instead of December 1, as in former seasons, and lasts until April 1.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record:

The Owen Sound Dry Dock and Shipbuilding Company have obtained their charter from the Dominion government.

The Cleveland Cliffs Iron Co. has made some changes in its mines captions prepartory to sinking a shaft at its new mine to be opened in the eastern part of Ishpening, Mich.

Another important discovery of ore is reported from the Mesaba. A very large deposit of good quality is said to have been found a short distance south of the Cincinnati mine and east of the town site of Biwabik.

Captain D. D. Gaillard, Corps of Engineers, U. S. A., engineer in charge of the river and harbor improvements of Lake Superior, is now engaged at making a survey of the Duluth-Superior harbor for the purpose of showing upon the new charts the improvements made in widening and deepening channels during the season just closed.

The grain trade this fall seems to be a failure in so far as freights are concerned, it was once thought that 5 cents would be a sure pop, but it seems now that 4 cents will be the best paid on latest cargoes with 3¾ cents ruling and only 4 cents out of Ft. William. The ore trade is about done, as the commodity is freezing and can't be loaded.

One of the soft coal piles of the Northwestern Fuel Co. at Allouez, near Duluth, is on fire. The burning area comprises a space about 400 feet square, filled with coal piles 40 feet high. The vast amount of coal piled there is a burning mass ,and almost all of it will be a total loss. It is thought that before the fire can be controlled thousands of tons of coal will have been destroyed.

Tower is the pioneer mining town of Minnesota. It was named after Charlemagne Tower, the present ambassador to Russia, at one time president of the Duluth & Iron Range road, and a resident of Duluth. Ore shipping began from there in August, 1884, and since then a total of about 9,000,000 tons has been mined and forwarded. Soudan is the mining district of Tower, and it is here that a large number of the miners and their families reside. The mines provide employment to about 600 men.

The Canadian Pacific announce that, weather permitting, the last of their Upper Lake boats to leave Owen Sound will be the Athabasca, which will sail at 1:30 p. m., Thursday, Nov. 28 (Thanksgiving), for Sault Ste. Marie and Fort William, being due at the former place at 8 a. m., Nov. 29, and at the latter point, 7 a. m., Nov. 30. On return trip this steamer will make the last trip for the season, leaving Fort William at 8 a. m., Sunday, Dec. 1, due at Sault Ste. Marie 8 a. m., Dec. 2, and at Owen Sound, 5 a. m., Dec. 3.

The railways are doing great work in carrying out the Manitoba wheat crop. From September 1 to November 16 no less than 17,680 cars of grain were loaded and shipped east, carrying in the neighborhood of fifteen to sixteen million bushels. The total amount of grain shipped east last year, from Sept. 1, 1900, to Sept. 1, 1901, was only a trifle over thriteen million bushels. At present all records for grain shipments have been broken, and it is expected that the total amount exported this fall will reach twenty-two million or twenty-three million bushels.

The United States Engineer Corps at Duluth is in receipt of a very fine instrument for registering the stage of water on Lake Superior. It is a self-registering gauge, and records the fluctuations of the water and the time at which changes take place. There are two clocks in connection with the machinery of the device. One makes a record of the time on a continuous sheet, while the other marks the fluctuations of the stage of water, if any. The pencil which indicates the water stage moves down the center of the sheet. The hours are marked by dashes on the side of the sheet. The distance between the dashes is divided by sixty, and in this manner it is possible to ascertain to a minute the time that the water may rise or fall.

The weather has been such during the past week that ore received from the mines and transferred immediately to docks and from there into boats, has not frozen sufficiently to retard its handling to any great extent. There was, however, quite an amount of ore handled that had been in the docks since early in the month, most of which was frozen solid. Boats arriving for such ores were considerably delayed, but every possible effort was made to give boats prompt dispatch. Shipments from the docks during the week amounted to about 80,000 tons, which, considering the lateness of the season and the fact that but few mines are now shipping, is a very good showing. Nothing to speak of will be done from this on as the weather has settled down hard and shipments are practically over.

H. D. Metcalf, the president of the Montreal Corn Exchange, says that he has 200,000 bushels of grain to move via the Canadian route, but cannot find the boats, and that the failure to vacate the coasting laws temporarily has left him in a bad plight. He says he knows of a consignment of 1,500,000 bushels of grain for which there is no vessel room. He expects to have to ship via Buffalo or some other port on the United States side of the lakes. In this it is considered that he may have difficulty, as the elevator space at Buffalo is already over taxed. It is hardly believed that the present experience in Montreal will have any serious effects upon the Canadian route. It may increase the ship production of Canadian shipyards.

BUFFALO.

Special Correspondence to The Marine Record.

Some of the last coal charters I hear of to Chicago are at 80 cents.

Over 81,000 tons of coal let here this week by lake at my last week's quotation on freight rates, Chicago, of course, taking the greatest lump, say 40,000 tons, and 90 cents paid to the South Branch of the river.

Chicago and Milwaukee is paying 80 cents this week with light chartering. The railroad car situation is accountable for the lack of bituminous, hence the low rate offered, which now ought to be at least $1.10.

Coal charters reported on Tuesday were the Minneapolis for Gladstone at 60c and the Egan for Chicago at 80c. There are lots of vessels, but chartering is made very uncertain by the delay in loading. It is expected that several cargoes will be sent to Duluth before the close.

With the hard cold weather shipments are drawing to a close and only the best boats are being chartered, yet, not many boats are going into winter quarters at this port. It would seem that the majority of tonnage will winter at Lake Michigan ports and Cleveland or adjacent points.

Capt. Alex Clark, identified with the union known as the Shipmasters' Association, is just out from the effects of a broken leg that has laid him up since last Christmas. The bone did not knit for a long time and his doctors once feared that the leg would have to be taken off.

With the closing of the local canal collector's office on Thursday at noon, it is probable that the routine duties of this branch of Buffalo's traffic business will be practically concluded for the season. One or two light boats possibly may clear on Friday for Tonawanda or Lockport, but nothing beyond that.

The International Seamen's Union of America went into convention on Tuesday in the Mansion House. Delegates from all the large sea and lake ports were in attendance. The session will probably last until Saturday, when the election of officers for the ensuing year will be held. The only business transacted at the first meeting was the appointment of several committees to act at this session.

The steamers Iron Age and the Tioga of the Union Steamboat line came together Monday afternoon in the river and the Iron Age had considerable planking of her stern jammed in. The Iron Age was backing out of the Erie basin just as the Tioga was coming in from the lake. The captain of the Iron Age could not get his boat's stern around in time to prevent the Tioga from crashing into it. The Tioga suffered no damage. It is said the strong current in the river caused the accident.

The amount of lumber forwarded by canal from the Tonawandas so far this season totals 194,623,203 feet, which the oldest shippers and carriers say has never been equaled in the history of the market. The shipments of lumber for last season are exceeded by 40,448,100 feet, those for 1899 by over 20,000,000 feet, and those for 1898 by nearly 10,000,000. The record for 1901 to date would have been much better, had the opening of navigation not been delayed until May 5, two weeks later than usual.

The formation of the opposition tug company is the subject of much comment. It appears that the new concern has obtained a good start, and is promised more business next season than it has now, not only from the line steamers, but from local owners. This is a part of the policy of vessel owners generally to keep some sort of opposition to the towing trust in sight. Since the Maytham line went into the trust there has been complaint that the rates were higher and the amount of attention to vessels diminished. Capt. St. Clair will need to hustle at this as well as other ports if he intends the tug combine to hold all of the lake trade.

The marine fraternity has lost in the death of Adelbert C. Lanclot this week, one of its best members. For the past eleven years he was an agent of the lake freight department of the Lehigh Valley R. R. Co., and stood high in the estimation of all with whom he was brought into contact in the vessel business, which on account of his aptitude, was conducted with the greatest possible skill. Mr. Lanclot was born at Churchill, N. Y., in 1858, and died on Tuesday, November 26, leaving his wife,Mrs. Jennie E. as the only surviving member of his family. He was a member of Hiram Lodge No. 105, F. & A. M., Buffalo Chapter, No. 71, R. A. Masons, and too worthy to lose, but we must accept the inevitable.

The reports to the effect that the Anchor Line is about to build three steel steamers to replace the India, China and Japan are still unconfirmed, but if present calculations mature there will be a contract let for one at least. The Philadelphia authorities are moving in the matter, but they will not contract for three steamers now, and they could not have them built in time for next season if they did. The plan is to build one steamer that will carry about as much as the entire three passenger steamers do now, that is 3,000 tons of freight and 300 passengers. The management wants to continue the old plan as far as possible, as it is convinced that nothing else on the lakes has been an improvement on it. The Anchor Line has always been a favorite one with the passenger service.

DETROIT.

Special Correspondence to The Marine Record.

Capt. Thomas Barry has got the boiler of the sunken steamer Baltimore, foundered recently at East Tawas.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending Nov. 26:

Prevailing wind direction for the week, N.W.; highest velocity, 24 N.W. on 25th. Mean temperature for the week, 34 degrees; highest temperature, 45 degrees on 22d; lowest, 24 degrees on 26th.

The Port Huron Wrecking Company has taken the contract to raise the tug Christian, sunk by collision with the steamer Albright, off Grosse Isle.

Captain Murdock Grant, one of the best-known marine men at Alpena, and captain of the tug Fred E., died suddenly at his home on Monday. He leaves a family.

F. H. Clergue has announced that the Algoma Central Steamship Co. would put on two passenger and freight steamers between the "Soo" and Windsor, Ont.,next season.

A new chart, in colors, of Ashtabula Harbor, Ohio has just been issued and is now on sale at the U. S. Lake Survey Office, 33 Campau building, Detroit, at 15 cents per copy.

The Marshall and Merida Transportation companies, of Detroit, David Whitney estate interests, have filed notice of dissolution and cessation of business with Secretary of State Warner.

The three are of course one, the D. & C., the C. & B. and the D. & B., and they all spell McMillan, and there is some gossip now regarding an amalgamation, but there is no reason for it.

Captain James Davidson has commenced laying the keel of the one hundredth wooden ship built in his yards. The new vessel will be a towing schooner 350 feet long, and a sister ship to the Pretoria, recently launched.

Mr. Newman, of Cleveland, is the man to succeed Mr. Carter as general manager of the D. & C. line steamers, Mr. McIntyre, general freight agent at Cleveland, is spoken of and would be an excellent man for the position, but Mr. Newman seems to be preferred.

Reports here state that ice is forming in Mud Lake and is now 2 inches thick. No more ore shipments can be expected from Marquette, as the ice is frozen in the pockets and the greatest difficulty is experienced in loading vessels which have been at the docks for several days.

Capt. McKay has sent out notices to the members of the Shipmasters' Association that the regular yearly meeting will be held December 10, at which time several important will be taken up A meeting of the local lodge will be November 30, to decide upon a location for their new quarters.

The Northern Steamship Co. will soon have a contract for the building of another fleet of boats. They have now chartered the following steamers to assist in carrying the last of the season's shipments between Buffalo and Duluth: Captain Thomas Wilson, W. D. Rees, Chili, Sevona, I. W. Nicholas, Scranton, W. H. Gratwick, Lackawanna.

The Portage Lake ship canals constitute the waterway across Keweenaw Point, in the State of Michigan, from Keweenaw Bay to Lake Superior, there being about 25 miles of water route, consisting of 5½ miles of Portage river with its four cuts, 17 miles of Portage Lake, and 2¼ miles in the upper canal from the head of Portage Lake to Lake Superior.

The Detroit, Belle Isle and Windsor Ferry Co. has let a contract with the Detroit Ship Building company for a new steel passenger propeller for the Detroit and Bois Blanc route. The new boat will have a greater carrying capacity than the Pleasure, Promise and Sappo, and will be launched at Wyandotte early in June, provided the shipbuilding company can secure the material for her construction.

Capt. Lewis Elliott, master of the steamer Byron Whitaker, fell into the hold of the vessel, a distance of 12 feet, on Sunday morning, and received a fracture of the skull. He struck on the back of his head and when taken up blood was pouring from his ears. He lay unconscious some time before he was picked up. He may recover. The Whitaker was to anchor here and he was getting her under way when he stumbled down the hatchway.

The death of David Carter and the selection of William C. McMillan as general manager of the Detroit & Cleveland Navigation Co. will in no way affect the policy of the company. The present employes will be retained where they are and except for a change in the directorate things with the company will move along as usual, and previous to the death of Mr. Carter, the late general manager, whom all interested in the company were and are so sorry to lose.

The Canadian fisheries protection steamer Petrel, Capt. Dunn, reports gathering in 52 gill nets set in Canadian waters east of Middle and Pelee Islands. The fishermen have been getting bold at this point for some time, and Captain Dunn took a run out and gathered in the gill nets. The Ontario Fisheries Department has lately granted licenses to fishermen to gill net along the international line. The Petrel will not go into winter quarters for some time, or at least until forced to by the ice.

An experimental float-light has been established on the northeast point of the shoal at the head of Russell Island, St. Clair river, in 20 feet of water, about 50 feet east of the red and black horizontal-striped spar buoy established to mark the dividing point of the north and south channels. The float consists of a double layer of cedar ties eight feet square, surmounted by a pyramidal iron framework supporting a post-lantern, showing a white light nine feet above the level of the water.

The Lake Carriers' Association is waiting to see whether the Detroit River bridge project will bob up again in Congress. It will be fought by the Lake Carriers' Association. "We will oppose anything which will interfere with a free and unobstructed channel in Detroit river," said Harvey D. Goulder, Esq., when he was in Detroit this week. "Sixty-five per cent. of the shipbuilding of the United States during the past year was done on the Great Lakes, and everything points to the fact that the year ending June, 1902, will be the largest in the history of the United States. With this enormous increase in tonnage and the demands being made for boats, the indications are that there will be no diminution of the lake traffic, and the Lake Carriers' Association will fight any move made to build a bridge or any other obstruction to navigation. Our contention has been for wider, deeper and safer channels to accommodate the largely increasing traffic on the lakes, and the same arguments and data which was used to defeat the Detroit river bridge project before will be brought into service again, and this will be augmented by additional arguments against the proposed move." It should appear that Mr. Goulder was perfectly right in this matter, although the Hudson has been bridged and other waterways spanned by erections. Why not tunnel the river like St. Clair or the Mersey at Liverpool?

CLEVELAND.

Special Correspondence to The Marine Record.

The schooners C. B. Jones and the Angus Smith laid up in winter quarters here this week.

Harvey D. Goulder Esq., Proctor in Admiralty has been elected an associate member of the society of Naval Architects and Marine Engineers.

There is a rumor afloat that a 1,000,000 bushel grain elevator is to be built here this winter on the site of the old Otis elevator. The property is being vacated and likely some steps will be taken in the near future.

Captain Stephen Murphy, late in command of the steamer Corona, and one of the best known masters on the lakes, has suffered a stroke of paralysis, and is in a serious condition. It is hoped, however, that the disability is only temporary, and that Capt. Murphy will soon be all right again.

The Pittsburg Steamship Co. has decided to lay up two more barges. The Alexander Holley will go into winter quarters. She is now unloading in this port. The Alfred Krupp will be laid up at Lorain. The larger barges will be laid up as fast as they get into ports where they discharge the cargos they are now carrying.

The contractors, under the government, who have been at work on the new piers at the harbor of Ashtabula, have suspended outside work for the season. They had the cribs ready to sink and expected to place them yet this fall, but the bad weather persuaded them to give up the effort. They expected to build about 500 feet of protection yet this season.

A Washington special says that Chairman Burton will call his river and harbor committee early in the session. "I anticipate that a river and harbor bill will be passed," he said. "It will be a task of great difficulty to frame one which will satisfy all parts of the country, but there is a pressing demand for legislation of this kind, in view of the great increase in transportation, domestic and foreign, as well as the necessity for securing the lowest possible freight rates."

The steamer City of Erie has made her last trip to Buffalo for this season. She will now be overhauled and put in shape for next year. The past season has been a record one for her in the passenger trade and her staterooms were engaged for each trip days in advance, while many who would have liked to make the trip to Buffalo were unable to secure accommodations. She will winter at Detroit. The Erie is a favorite on the Cleveland-Buffalo route and is one of the best passenger steamers afloat on fresh water.

The Cleveland Pneumatic Tool Co., 74 Frankfort street, has issued a catalogue of pneumatic hammers, riveters and drills. Illustrations are presented showing sectional drawings of hammers and the application of these hammers to chipping and riveting, in practical work. Other illustrations show piston air drills in ship building, heavy casting and other work. From the introduction we quote the following significant statement: "The time must come when these labor-saving devices will be in as general use in the iron industries as the sewing machine is in textile fabrics. Notwithstanding the imperfections in the construction, and the large expense attached to keep these tools in operation, the progressive men in various lines have stood by their convictions and continued their use."

Edwin C. Morse, as administrator of his wife's estate, filed a $10,000 damage suit against Captain James Corrigan in the Common Pleas Court this week. The plaintiff claims that his wife was stewardess on Captain Corrigan's tow barge Charles Foster when the boat foundered on Lake Erie in December, 1900. He says that his wife was refused permission to leave the boat at Detroit, after a stormy voyage down from Lake Superior, and after the barge had been crippled. The Foster foundered off the port of Erie, and the lives of all of the members of the crew were lost with the exception of the engineer. The Foster was duly classed and considered seaworthy so that Capt. Corrigan as owner of the vessel had nothing whatever to do with her loss except his loss in ownership.

FLOTSAM, JETSAM AND LAGAN.

An experiment is to be made on the Diamond Shoal (Cape Hatteras) lightship in December, through which the Light-House Board expects to project a thirteen-inch beam of light from sea to sky, which will be visible to mariners from thirty to forty miles.

While the steamer Elfinmere which took fire at Green Bay on Saturday, was not totally destroyed, her damage is sufficient to constitute a constructive total loss. The hull is practically destroyed amidship aft. The boiler lies at the bottom of the hold, having fallen when the beams supporting it had burned away. Capt. Gunyon saved the steamer's books and papers.

The members of the Masters' and Pilots' Association at Pittsburg, Pa., struck on Monday for an advance in wages of 50 per cent. About 10,000,000 bushels of coal await shipment on the present high water, and the tow boat owners say they will have no trouble in getting all the pilots required to man vessels at the old rates. The pilots have been getting $2,000 a year and demand $3,000.

Canadian authorities appear to be waking up to the importance of the marine interest on the Great Lakes. The harbor at Collingwood, formerly given a wide berth by boats of deep draught, is now in shape for the handling of boats of all sorts. The Strathcona, drawing 18 feet 6 inches, recently discharged her cargo of 110,000 bushels of Manitoba wheat at the elevator there without difficulty. The activity noted in the direction of harbor improvement elsewhere is also quite marked.

A New York dispatch states that an amusing story has come to light about the lake built steamer Northtown. The Northtown arrived from Chicago by way of the Welland canal and the St. Lawrence river last week, and was moored at the Commercial wharf, Atlantic dock. She was supposed to have on board 3,000 barrels of glucose and 1,500 sacks of meal. This was to be stored in the warehouses. When all the glucose had been discharged there was an amazing discrepancy between the tally of the ship's mate and that kept by the warehouse people. The ship's papers called for 3,000 barrels, but the mate vowed that he had counted 3,051 barrels. The warehouse superintendent had kept a double tally, and his men could make out only 2,716 barrels, or 284 less than the papers called for, to say nothing of the mate's overplus of 51 barrels. The controversy grew warm and while it was raging the Northtown steamed away to Fernandina, Fla. There the mystery was solved. While preparing the steamer to receive cargo an after hatch was opened and beneath it were found the missing 284 barrels of glucose, but nowhere could the mate's overplus of 51 barrels be discovered.

STATEMENT OF THE VISIBLE SUPPLY OF GRAIN.

As compiled by George F. Stone, Secretary Chicago Board of Trade, November 23.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	3 968,000	1,498 000	684,000	236,000	323,000
Chicago	6 143,000	6,022,000	994,000	972,000	20,000
Detroit	679,000	221,000	113,000	139,000	29,000
Duluth	6,321,000	479,000	96,000	349,000	489,000
Fort William, Ont.	1,444,000	.....	.....	.....	.....
Milwaukee	174,000	105,000	222,000	52,000	226,000
Port Arthur, Ont.	220,000	.....	.....	.....	.....
Toledo	480,000	394,000	913,000	299,000	9,000
Toronto	8,000	.....	.....	.....	29,000
On Canals	174,000	60,000	525,000	37,000	335,000
On Lakes	3,220,000	557,000	573,000	65,000	692,000
On Miss. River	.....	.....	.....	.....	.....
Grand Total	48 912,000	11,464,000	6,492,000	2,618,000	2,570,000
Corresponding Date, 1900	62,261,000	8,704,000	11,769,000	1,326,000	3,559,000
Increase for week	3,235,000	.....	.....	379,000	.....
Decrease " "	.....	692,000	368 000	.....	58,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

Liability of Charterer—Loss Through Sea Perils.—The fact that a time charterer of a vessel subchartered her, to be used as a newspaper dispatch boat in time of war, such employment being lawful, and within the terms of the charter, does not render him liable for a loss or injury arising from sea perils from those she would have encountered if she had been employed in the carrying of cargoes. The Ely, 110 Fed. Rep. (U. S.) 563.

THE NICARAGUA CANAL.

The Kings of Spain, of France and of England in the remote past, and for over a century the Government of the United States, have been endeavoring to find a method of uniting the Atlantic and Pacific by an inter-oceanic canal, constructed somewhere on the isthmus of Panama or across Central America or Southern Mexico. More than a quarter of a century ago the Commercial News took up the fight for a canal at Nicaragua, and has never since ceased to urge its construction. In an article printed December 1, 1875, this paper said:

The sagacious policy evinced by the English in obtaining control of the Suez Canal will, without doubt, have the effect of inducing Congress to look with favor upon the recommendation which it is said will be made to them by the President in his next annual message, in regard to the construction of an inter-oceanic canal by the Nicaraguan route, this route being pronounced by the most experienced engineers to be the most feasible one in every respect. The United States should not fail to take advantage of the opportunity they now have offered for the construction and control of this future marine highway, which is destined to be of equal importance to the commerce of the world as the Suez Canal Should the project be carried to a successful issue, it will, by giving us control of the immense carrying trade of the far East, go far towards restoring to the United States the supremacy of the seas, which, before the late war, we were possessed of. To the people of this Coast the opening of a new and rapid means of communication with the Atlantic will be of incalculable value, as to them would accrue in a few years an amount nearly equal to the cost of its construction. The grain trade particularly would be benefited in the saving which it would effect in time, interest and the many risks incident to the present long passages. If the people of the State understand their true interest they will not depend upon the acquisition of adjacent territory for an increase of their prosperity, but will use every possible means towards having this great enterprise carried to a successful termination.

The fight for a canal began in earnest with the discovery of gold in California, was laid aside during the Civil War, and renewed during General Grant's term as President. From that time on no President's message has been without a recommendation of this project, no Congress has been without a canal bill, and with almost as much regularity a bill has been adopted in one house, only to be defeated in the other.

Apparently to postpone the inevitable, when success seemed assured, a commission was devised that, at a cost of over a million dollars and several years' work, made exhaustive surveys of each route, with the result, if the public press can be relied upon, that the many previous competent surveys were approved, and the Nicaragua route stands pre-eminent as the most advantageous one. Further, the Hay-Pauncefote treaty has been signed, sweeping away the political obstacles in the path of the canal. Beyond question, more than three-fourths of the voters of this country want the canal built, and doubtless a majority in Congress are instructed to work and vote for it, but there is still a powerful interest, adverse to the canal, that has great influence, particularly in the Senate, and it is by no means safe to predict a victory for the canal when Congress meets. Every interest, every private individual and public body in the United States, and particularly here on this Coast, in this State and in this city, should bring all possible influence to bear upon Senators and Representatives to assist them in standing firm for the canal. Every military and business interest requires the immediate construction at Nicaragua of an "American canal under American control."

Referring to the treaty just signed by Great Britain and this country, the Chronicle says:

Both countries would seem to be well out of an entanglement in which they unfortunately became engaged a half century since. *And now we shall get the canal, and it will be built on the Nicaraguan route.*

The Examiner says:

There is nothing left now but to dig the canal. All the pretexts for delay have been exhausted. There is no occasion to wait for another treaty, or for the appointment of another commission or for another offer from the Panama company. The report of the Isthmian Commission has been filed, and it shows that the Nicaragua Canal can be built for over $60,000.000 less than it would cost to buy the Panama Canal and finish it. There is money enough in the treasury to do the work. Let it be under way before Congress adjourns.

COAST SHIP BUILDING.

The Townsend & Downey Ship Building and Repair Co., of New York, have contracted to build in their shipyard at Shotters Island, Borough of Richmond, N. Y., two steel freight ships of the following dimensions: Length, 360 ft., width, 50 ft., depth, 20 ft., with a cargo capacity of about 6,000 tons. These two ships are to be completed in 1902, and will be much the largest ships ever built in New York City.

The Wolff & Zwicker Iron Works and Shipbuilding plant, in Portland, Ore., have been sold by the receiver to Drake C. O'Reilly for $42,000. The establishment is one of the best equipped in the Northwest. Two torpedo boats and the famous destroyer Goldsborough were constructed by Wolff & Zwicker.

CORRESPONDENCE.

☞We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

SAILORS' WAGES.

SHEBOYGAN, WIS., Nov. 24.

Editor of The Marine Record:

I shipped on a schooner to get on board of her on Wednesday afternoon at 4 o'clock at the time she was going on the lake, and I was paid off at 10 o'clock in the morning, the captain only counting half a day when he paid us off for the six hours from 4 one day to 10 o'clock when he settled with us in Buffalo. He said that we were only at work four hours outside of meal times, and that was a half a day according to law. I want to know if we can't make the owner pay us for the two days, as our time was used anyway and we couldn't seek work on another vessel after 10 o'clock, as I tried to and didn't get a job until the next day. Will I have to take the half day's pay or can I collect from the owner, although I signed the wages sheet ralther than to kick up any fuss?

JAMES P. DUNLAP.

There is no law on the subject as far as we are aware, but it appears that only one-half day's service was renderd to the vessel, and that being paid no further claim can be substantiated.—Ed.

SHIPPING OFFICES.

CHICAGO, ILL., Nov. 25.

Editor of The Marine Record:

I would thank you to advocate the installation of government shipping offices on the lakes so that we won't be imposed upon any more by the owners' agents, who take the right of shipping anyone they please and taking the best money offered. Cleveland is bad enough and lots of men are shipped there for a consideration, but we don't want the system to extend to Chicago, and if organized labor can buck against it I warn you that we will do it.

Yours truly,

JAMES ROBERTS.

BREAKERS AHEAD.

ASHLAND, WIS., Nov. 20th, 1901.

Editor of The Marine Record:

I have a grievance I wish to express through your columns. I see breakers ahead, and want to give warning to my fellow pilots, so they may keep a sharp lookout for the future. I have served thirty-nine years on fresh and salt water, have held a first-class pilot license for fourteen years. To-day I am second mate on one of the Pittsburg Steamship Co.'s steamers; she is a craft of the first class and carries a passenger license. As the U. S. government inspection laws require such steamers to carry two first-class pilots, I have been employed since spring as one of them. The wages have been advanced lately to wheelmen, watchmen, firemen and deck hands, would it not seem just to fair-minded people that those who are guarding their property with vigilance day and night be advanced accordingly?

We have on our boat men who have not served six months on any boat in any capacity, and to-day I receive five cents per day more wages than such, because we pilots have not the necessary armor for protection. One year ago last October the Brotherhood of Marine Engineers demanded an advance of 20 per cent. in wages, and it was granted them by the Lake Carriers' Association; that body then advanced to every employe aboard their boats his wages in that proportion, as a proof of good feeling and just treatment between man and man. This spring another difficulty arose between engineers and owners which caused us about five weeks of lost time before matters could be adjusted satisfactory, and finally ended in another advance of wages to the engineers. In order to meet that demand without loss to themselves, the so-called steel trust made a cut in our wages of $12.00 per month from the regular scale of wages established this spring by the Vessel Owners' Association. Does that seem like good principle to hit the weak because you are afraid of the strong? When thinking of the welfare of our families, don't it make us dread the future when such a monster as that so-called steel trust has risen in our midst as an enemy to our welfare?

I would ask what can be done in the future, by fair means, so that we may maintain our rights?

Respectfully yours,

N. P.,
Huron, O.

Chairman J. R. Ellerman, of the Leyland Line, whose $6,000,000 of common stock was acquired last spring by J. P. Morgan for $8,750,000, has bought 60 steamships from six lines, amounting to a tonnage of 202,767, thus making Mr. Ellerman seventh in the list of British shipowners. As there are 277,400 tons in the Leyland Line, he directs more than 480,000 tons, a greater tonnage than is managed by any other company. The Ellerman interests are to be incorporated with the Liverpool and Ocean Steamship Co., and the name changed to Ellerman Lines.

NOTES.

THE experiments recently made by the Russian imperial government in raising sunken ships by means of inflated waterproof sacks, proved successful. By means of six such sacks a barge of 16 tons was raised from a depth of 22 feet in 35 minutes. Air is pumped into the empty sacks after they have been placed in the submerged vessels.

ASSISTANT SECRETARY of Navy Hackett, who soon retires from office, advocates a strong national naval reserve, in his report just issued. He says that it is but the simple duty to declare that there are but few duties more pressing upon the attention of Congress than that of providing the country with some practical plan of beginning and maintaining a naval reserve.

FOR the care and preservation of the numerous lighthouses, buoys, and other purposes connected with the administration of the U. S. Light-House Board, there are required 34 steam tenders, 11 steam launches, 2 sailing tenders, 1,420 light-house keepers, other employes, including crews of light ships and tenders, 1,428, and laborers in charge of the port lights, 1,574.

THE Navy Department has been informed that the torpedo boat Goldsborough, built by Wolf & Zwicker, of Portland, Ore., was badly damaged at Seattle on Nov. 15, and will require considerable repairs. It appears that the Goldsborough, had gone out to sea for an official trial, and owing to a fog, she lost her bearings and ran her bow into the dock, with disastrous results.

THE Pintsch system of car and buoy lighting has received gold medals and the highest awards for excellency and efficiency at the World's Exposition at Moscow, Vienna, St. Petersburg, London, Berlin, Paris and Chicago; also at Atlanta and the Pan-American Exposition at Buffalo. This system of lighting is controlled in the United States and Canada by the Safety Car Heating and Lighting Co., 160 Broadway, New York City.

THE foreign shipments of the American Steel & Wire Co., through Eastern ports made during October, amounted to 7,500 tons. This is the record monthly shipment for this year and exceeds the shipments made during the month of September by 40 per cent. Australia was the biggest buyer 2,616 tons of wire products having been sent to this island. The exports to Europe amounted to nearly 1,000 tons. The export shipments of nails amounted to 1,226 tons.

THE new program for naval construction is engaging the attention of the British Admiralty. While some provision is expected for adding to the cruiser fleet, the new construction estimates will probably be curtailed, owing to the war expenditures, and attention will be largely devoted to clearing off the arrears of construction, now aggregating in the neighboorhood of 20 war ships, money for which has already been voted. It is hoped that the arrears will be cleared off by the end of 1903.

THE question of improving the navigation of the St. Lawrence to Montreal has again been brought before the Dominion Cabinet, by a deputation representing all the large steamship companies doing business by the St. Lawrence. It was urged that St. John, Halifax and Sidney be made the winter ports of Canada instead of American ports, to which end it was suggested that the Inter-Colonial route be shortened. It was shown that it cost shippers via the St. Lawrence $5,000 a vessel more insurance than it did via United States ports.

A REMARKABLE project is receiving attention among Russian engineers. It is proposed to construct a tunnel under the main chain of the Caucasus mountains from a point 40 miles south of Vladikavkas. The tunnel will be 23 miles long and cost $75,000,000. As soon as the Trans-Siberian Railway is finished it is believed this Caucasian tunnel, which has the warm support of the Czar, will be commenced. From a military and commercial point of view the work will be of vast importance, as the only direct communication with trans-Caucasia from Southern Russia at present is by an ordinary road from Vladikavkas to Liffls.

A HANDSOME silver service was presented to the battleship Illinois, on Nov. 16, at Newport News, Va. Assistant Secretary of the Navy Hackett, representing the Navy, accepted the gift in the presence of a large crowd. Among those present was Rear Admiral C. S. Cotton, of the Norfolk Navy Yard. Senator Mason of Illinois presented the service to the ship on the part of the people of Illinois. Capt. Converse, U. S. N., commanding officer of the Illinois, accepted the gift on behalf of the battleship after Mr. Hackett had spoken. The silver set presented to the battleship contains ten pieces, handsomely engraved and lined with solid gold. It is valued at $10,000.

THE London office of R. G. Dun & Co., reports that there is unexampled activity in shipbuilding work in the United Kingdom, and this tends to offset the depressed condition of other trades. All the shipbuilding yards are working night and day on new tonnage, despite the fact that freights are just now at a point which many regard as well below that beyond which no profit can be taken. One reason for this activity is the fall in prices for this class of work, shipowners who had held off during the period of inflated prices now fearing that a re-action in trade may find them with a dearth of tonnage. In consequence the iron and steel trades are being kept fairly busy, and the number of pig iron furnaces in blast shows a material increase as compared with the preceding quarter.

THE NEW DRY DOCK AT BALTIMORE.

The opening of the Wm. Skinner & Sons Ship Building and Dry Dock Company of Baltimore City will take place on Monday next. This dock is one of the largest in the country, and is capable of docking any vessel of 600 feet in length and 70 feet beam, with a draft of 22½ feet. The basin of the dock is constructed of timber, supported on piling, and the entrance is of granite masonry backed with Portland cement concrete. The gate is a steel caisson, giving an opening of 75 feet 8 inches at the low water line, with a depth of water on sill of 22½ feet. The dock will be filled through six thirty-six inch valves in the caisson, and emptied by three 36 inch centrifugal pumps. The latter have a capacity of 105,000 gallons ber minute when all three are in operation, and will empty the dock in 1½ hours. To care for the leakage, a 14 inch centrifugal pump has been provided. The boiler plant consists of three 350 H. P. water tube boilers, which will furnish steam for the engines of the main pumps, and one auxiliary tubular boiler for the supply of the drainage and caisson pumps and the draft fan, also for the pumps furnishing water for washing out the dock and for fire protection.

The principle dimensions of the dock are as follows:

Length over all, 628 feet; width on floor, 62 feet; width at top of keel blocks, 69 feet; with at top of dock, 125 feet; entrance at bottom, 60 feet; entrance at top, 80 feet; depth of water on sill at low water, 22½ feet; depth of water on sill at high water, 25 feet.

The head of the dock and the side slopes for about 60 feet from the head are protected by concrete filling back of the altars, and at the point of junction of the timber work and masonry a wall of concrete is built back of the slopes, but the filling back of the altars in the remainder is made of earth excavated from the bottom of the dock.

The bottom and slopes of the basin are supported by piles, and capped by 12x12 inch timbers running longitudinally of dock. Upon these caps are placed Oregon fir, spaced every four feet, and support the keel and slide blocks. Every alternate floor timber is 70 feet long, the others being 14 feet. The slope timbers at each side are framed into the top of the long floor timbers, and between each main slope timber is an intermediate slope, framed into a filler which is also framed into the sides of the long floor timbers.

The floor is made of four inch thick oak plank, spiked to joists which rest upon and are bolted to the longitudinal caps of the piles. The surface of the floor slopes from the center to each side, and drains into the side drains of the dock. These again empty into a main cross drain which leads to the tunnel under the pumps. In this manner it is possible to keep the floor always dry, making it suitable for working under the keel of a vessel.

There are four chutes for delivering material into the dock and for transferring material from one part of the plant to another.

The plans and specifications were prepared and the work of construction superintended by James Ritchie and C. P. Ruple, civil engineers of Cleveland, Ohio; the specifications and general plans of the pumping plant were prepared by C. L. Reeder, mechanical engineer, of Baltimore.

Congressman Frank C. Wachter and Mr. William Skinner went to Washington Thursday and extended invitations to many prominent men and officials from the capital city. Among those who accepted and will be present at the launching are: Secretary of the Navy John D. Long; Admiral Endicott, chief of the bureau of yards and docks; Admiral Bowles, chief of the bureau of construction of the navy department; J. A. Dumont, superintendent of the inspectors of steamships department; Capt. C. A. Shoemacher, chief of the revenue cutter service, and Eugene Tyler Chamberlain, commissioner of navigation, accepted invitations to be present.

MINNESOTA IRON ORE FREIGHT CASE.

An interesting decision was made last week by the railroad and warehouse commission of Minnesota. A year or two ago the former commission ordered a reduction of the rates on the shipments of iron ore over the Duluth & Iron Range railroad to the ore dock at Two Harbors, which were $1, 90 cents and 80 cents, according to length of haul, to 60 cents a ton, and over the Duluth, Missabe & Northern railroad to the ore dock at Duluth from 80 cents to 60 cents a ton. This order was based on the contention that as the railroads in question are wholly within the state of Minnesota they are, therefore, subject to the jurisdiction of the state railroad commission. The railroad companies concerned did not comply with this order, claiming the ore shipments over their roads were wholly destined to points outside the state, and that being, therefore, interstate commerce their rates were not subject to the jurisdiction of the railroad commission. It is true, they admitted, that the railroads begin and end in Minnesota, but the railroads were only one of a series of connected instrumentalities for transporting the ore to points on Lake Michigan or Lake Erie. The docks and machinery were built solely for the purpose of transferring the ore to lake ships destined to those ports. It is dumped from the cars into pockets, through which it is carried into the ship's hold. Moreover, each trainload and shipload of ore consists of many different lots belonging to or consigned to different owners—in widely different quantities and of different grades. All these different separate lots, divided according to individual ownership, are distributed among the pockets, the different ores being kept distinct. The same distribution of each consignment and each lot is maintained in the ship's hold. No other ore is carried over the roads or handled on the docks except ore destined to ports outside the state.

The present railroad commission reconsidered the question and last week made the following decision: In the matter of the filing of the Duluth & Iron Range railroad with the railroad and warehouse commission, it appears to the commission that all ore shipped over said road from the mines, or stations along the line of railway, within the state to points without the state of Minnesota, is interstate commerce, and as to the tariffs the commission claims no jurisdiction, but as to all shipments of ore from the mines or stations along the line of said road within the state to the ore docks at Two Harbors, destined to points within the state, is not interstate traffic, and over such shipments the commissioner claims jurisdiction.

Therefore, it is hereby ordered by the railroad and warehouse commissioners that the said Duluth & Iron Range railroad, on or before December 3, 1901, file, in the office of the commission at St. Paul, Minn., a schedule of its iron ore tariffs and charges for the transportation of iron ore not interstate traffic from the several stations and mines along its line of road to its docks on Lake Superior at Two Harbors, Minn.; and also keep said schedule for public inspection in every depot and station on the line of said railroad. The orders of the commission of November 9, 1900, and May 28, 1901, are hereby vacated. The order is made applicable to the Duluth, Missabe & Northern railroad also.

It is generally believed that the railroads, both of which are the property of the United States Steel Corporation, will appeal to the United States courts.

EASTERN FREIGHTS.

Messrs. Funch, Eyde & Co., New York, report the condition of the Eastern freight market as follows:

The unprecendented stagnation in steam freights continues without abatement, and although the majority of prompt vessels, recently pressing on the market have been disposed of in various directions, this does not seem to have relieved the situation to any extent. The two grain fixtures reported, were to cover old trades, but shippers still find it difficult to effect new business, owing to the exinsting difference in prices, between themselves and buyers.

Exportation of coal from this coast to the Mediterranean and Continental ports is fairly active, but this trade is somewhat restricted by the scarcity of transportation facilities from the mines to the seaboard. Cotton chartering has been confined within narrow limits, the tonnage previously taken evidently being sufficient to supply immediate requirements.

Time charterers are going ahead very slowly, and show no disposition to commit themselves for any length of time, excepting at extremely low figures.

Business in sail tonnage continues to drag in the same unsatisfactory way as for some weeks past, with rates depending largely upon the ideas of shippers. The fixture of a ship with case oil to Calcutta at 13 cents, doubtlesss explains the situation of affairs so far as long voyage vessels are concerned.

GREAT IS SALT LAKE.

Great Salt Lake, Utah, is in many respects one of the most wonderful bodies of water in the world. It is six times as salty as the ocean, and though four good-sized rivers are constantly pouring their waters into it, it never loses any proportion of its saltiness, and its level is never raised an inch. No one has yet discovered why all this fresh water does not reduce the salt, or what becomes of the fresh water, since it does not raise the lake level. It was at one time about as large as Lake Huron and perhaps a thousand feet in depth; now it is about one hundred miles in length, with an average of about 27 miles and its greatest depth is 60 feet. But what a storehouse of wealth it is! Its area is 27,000 square miles or 75,271,680,000 square feet. Allowing it an average depth of 20 feet, its contents are 1,505,433,600,000 cubic feet. Chemical analysis has shown that one-sixth of this is common salt and sulphate of soda, say 250,905,600,000 cubic feet. Of this combined production one-eighth is sulphate of soda and seven-eighths common salt. A cubic foot of sulphate of soda weighs 50 pounds, and a cubic foot of common salt weighs 80 pounds; a simple calculation shows, therefore, that the lake contains 784,080,000 tons of sulphate of soda and 8,789,196,000 tons of salt. Allowing ten tons to a carload, that makes 78,408,000 carloads of the soda and 878,016,960 carloads of salt. These figures are astonishing, to say the least, but the lake has other features that challenge attention. For example, there are mountainous islands all over it varying in height from 3,000 to 5,000 feet. Antelope island, the largest, is about sixteen miles in length and five miles in width, with a height of 4,000 feet. The scenery on the island is exquisitely beautiful. Luxuriant grasses flourish everywhere, and streams of pure water run down the sides of its mountains and its canyons. It has many improvements, too, including orchards, gardens, ranches and groves of trees. Its beach is of white sand and slopes in just the way to make it an ideal bathing resort. Thus it is possible to have a delightful sea bath one thousand miles from the ocean and 4,250 feet above the ocean level.

All the German naval officers are receiving instructions in wireless telegraphy, and all ships of the German navy will be equipped with wireless apparatus.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Rights of Owner—Damages by Marine Perils.—As between owner and charterer the charterer's violation of the terms of the charter does not make him responsible for damages by marine perils in no way brought about by such violation. The Ely, 110 Fed. Rep. (U. S.) 563.

Liability of Charterer—Delay in Loading.—Evidence held to sustain a claim for demurrage under the terms of a charter because of the failure of the charterer to have the cargo ready, and to load the vessel within a reasonable and customary time. Henningsen vs. Watkins, 110 Fed. Rep. (U. S.) 574.

Shipping—Demurrage—Evidence of Waiver.—Where a charter expressly provides the lay days for loading and discharging, and fixes the amount of demurrage to be paid for overtime consumed by the charterer, the owner cannot be held to have waived such provision, except upon clear evidence. Henningsen vs. Watkins, 110 Fed. Rep. (U. S.) 574.

Grounds for Compensation—Benefits.—Compensation may not be given unless a benefit is conferred by the saving of property, but any person whose aid has tended to this result may be compensated, although he was compelled by prudence or necessitv to discontinue his assistance and leave the final rescue to others. The Henry Steers, Jr., 110 Fed. Rep. (U. S.) 578.

Liability of Charterer—Unauthorized Use of Vessel.—The fact that a charterer puts the chartered vessel to a different use from that specified in the charter, does not render him liable to the owner for an injury to the vessel, if it appears that the unauthorized use certainly did not cause or contribute to the damages. Sutcliff vs. Seligman et al., 110 Fed. Rep. (U. S.) 560.

Salvage—Compensation—Negligence or Lack of Skill.—A salvor may be found guilty of misconduct, or gross negligence tantamount thereto, which may result in forfeiture of the claim for salvage; and lack of skillful operation, with or without injurious results, may diminish the award, while the presence of such skill may increase it. The Henry Steers, Jr., 110 Fed. Rep. (U. S.) 578.

Injury to Salved Vessel—Damages.—Specified negligence proximately resulting in distinguishable injury to the vessel may be used in an action for salvage either to diminish or defeat compensation; and in an action by the owners of the property, when culpable negligence is established against the salvor, resulting in injury, damages thereof may be recovered. The Henry Steers, Jr., 110 Fed. Rep. (U. S.) 578.

Salvage—Skill and Care Required for Salvor.—While a salvor should exercise skill and care that a man of ordinary prudence and capacity in the same business would be expected to use, yet in case of necessity a person without ordinary nautical skill may undertake a rescue on the sea, not assuming a knowledge which he does not have, but using in good faith such ability as he possesses. The Henry Steers, Jr., 110 Fed. Rep. (U. S.) 578.

Contributing Fault—Failure to Maintain Lookout. The fact that a schooner kept her course up to the time of a collision with a steamer does not excuse her failure to maintain a proper lookout, since she is not, under all circumstances, justified in keeping her course, and such failure will be deemed a contributory fault, notwithstanding her privilege and the fault of the steamer, where, if such lookout had been maintained the collision might probably have been avoided by prudent navigation. The Devonian, 110 Fed. Rep. (U. S.) 588.

Construction of Charter.—Where a written charter demising a launch contained no stipulation for the employment by the charterer of any particular person as engineer, a parol agreement by the charterer to employ a person requested by the owner did not become a condition of the charter, nor did his employment in accordance with such agreement preclude the charterer from rightfully employing another competent engineer to run the engine on an occasion when the regular engineer was absent. Sutcliff vs. Seligman et al., 110 Fed. Rep. (U. S.) 560.

Shipping—Subcharter—Deviation from Charter—Lawful Employment.—March 1, 1898, a British seamship was chartered for six months, to be employed in carrying "lawful merchandise and passengers," between American ports, not further south than the river Plate, South America, the owner to provide officers and crew. May 31, she was subchartered to a newspaper company for one month, "to be employed in carying lawful merchandise (excluding all injurious and unlawful cargo) within the United States, West Indies, and Central America. It is understood boat is to be used as a dispatch boat, and to follow the fleet of the U. S. Navy as closely as prudent and safe." There was no provision in the original charter forbidding a subcharter. Held, that the subcharter was valid, and one which the charterer was authorized to make;the use of the vessel contemplated thereby being within the terms of the original charter, lawful in itself, and not in violation of the neutrality laws. The Ely, 110 Fed. Rep. (U. S.) 563.

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ENGINEERS IN THE NAVY.

English naval experts and engineering authorities regard as of the most serious importance the statement made in Admiral Melville's report to the Secretary of the Navy that the engineering efficiency of the United States navy is rapidly decreasing. They point out that the situation threatens the efficiency of the navy itself, which is likely in the event of war to have an unpleasant awakening. The question raised by the American admiral is creating much interest here, since it is believed that the British navy is in no better plight.

Engineering, the highest authority among the British technical journals, asserts that the difficulty arises from the unpopularity of engineering duties among both British and American officers.

"No country," says that journal, "that cannot command a body of men willing to undergo the disagreeable experiences incidental to the training necessary for an engineer will be able to maintain its position as a first-class naval power under the stress of war, however many ships and guns it may possess. Neither Great Britain nor the United States lacks such men, and only the ruling powers of both countries can prevent their employment." Discussing the failure of the bill to reorganize and increase the efficiency of the personnel of the navy, which passed Congress in 1899, the same authority says: "Miscarriage was rendered possible by the failure of the bill positively to direct that the duties of officers should alternate between the engine-room and the deck. For every three commissioned officers taken from the engine-room and transferred to the deck only one was sent below. Further, officers were transferred to the deck for permanent duty, while the others were detailed for engine-room duty only for a short period.

"Whether practical people like those of the United States will submit to see the strength of their navy whittled away, while vast sums spent on the fleet are practically wasted because engineering duties are unpopular, remains to be seen. Unfortunately political conditions such as prevail in the United States, render it difficult for popular opinion to make itself felt, and abuses sometimes grow very rank before they are suppressed.

"Any attempt to detail warrant machinists for engine-room duty would be absolutely futile. We think too much of the engineering knowledge of the United States to imagine that the foolishness of such a course would not be seen. If such a plan should be accepted, the American navy would be thrown back at least a quarter of a century, as far as personnel is concerned."

NEW YORK SHIP CANALS.

The Railway and Engineering Review, Chicago, always correct in its views of transportation questions, has the following to say relative to New York State canals:

Necessity for cheap handling of freight is becoming plainer every day, and railroads are seeking by means of additional facilities to reduce these charges to a minimum. The New York Central Railroad company, although already possessed of an elevator which will store upwards of 1,000,000 bushels of grain, has recently made a contract for the construction of another elevator holding double that amount. It is proposed also to deepen the water at the piers of the new building to thirty-two feet, so that the largest ocean steamers may be loaded directly from the house. Here is one of the advantages which railroads possess over the lake and canal. Grain can be loaded on the cars at the original shipping point, taken through to New York without transfer, and with a single handling loaded on a steamer for export. If carried by lake and canal the grain in the car on which it was originally loaded must be handled at the lake port of shipment. again at Buffalo, again at New York, and then to the steamer. It is not alone the expense of handling that works against the water routes. Every time grain is run through an elevator it shrinks in weight, in fact, the cost of shrinkage is fully equal to the cost of handling, and the two together constitute a serious charge. It is for this reason that the rail route is preferred as an instrument of carriage. as the extra expenses added to the additional time required for water transportation constitutes an objection that is fatal to water transportation. The New York canals, although a valuable factor in their day, have ceased to be of controlling influence in the movement of grain. It is not a question of capacity—it is simply one of time and expense. This ought to be appreciated by those who have the welfare of the state at heart. To spend 60,0000,000 or any other sum in the enlargment of the canal is foolish, because it will prove futile. As an engineering problem it can undoubtedly be worked out, but as a traffic problem it presents difficulties that are insurmountable.

PORTAGE LAKE SHIP CANAL.

Speaking of the Portage Lake ship canals Major Marr, government inspector says: Many people, especially newspaper men and some marine men also, have erroneous ideas as to the conception of the phrase "Portage lake ship canals." It is too often taken to mean just the canal at the west side of the point, where a great deal of improvement work has been done. The waterway includes Portage river from the east side of the point as well, for the govenrment is expending as much money in improving it as at any other place across the point. "Too many people talk Portage lake too much," said Major Marr. "When Portage lake is spoken of the government means the Portage lake down on the east shore of Lake Michigan, and newspapers especially are apt to misconstrue telegraphic news in reference to the same. The waterways here are called by the government the waterways across Keweenaw Point on the Portage lake ship canals.

FOREIGN traffic with the United States for ten months of the current calendar year, according to Treasury Department figures, shows exports valued at $1,191,960,322; imports, $727,897,358. Exports during this period decreased $3,393,596 as compared with ten months of 1900, while imports similarly increased $32,798,891. October exports—$145,640,458—disclosed the largest monthly outgo of the year, although considerable less than the phenomenal export record of October, 1900, when the record breaking figure of $163,389,680 was reached in American export statistics. The theoretical excess of exports for ten months, according to the official tables of statistics, is $464,062,964. Last year it was over $500,000,000.

THE Lake Carriers Association should take a firm stand this winter, and hold for all that is right under a legislative form, and in the best interests of lake commerce.

Pilots—Care Required.—Pilots whose vocation is to control the course of vessels into and out of the Delaware Bay and river and their anchorage therein, are required to exercise the care and skill of river and harbor pilots, and are chargeable with knowledge of natural objects on shore and the obstacles of navigation, and of the significance of fixed and permanent lights. Harrison vs Hughes et al., 110 Fed. Rep. (U. S.) 545.

NEW COAST SURVEY STEAMER.

The seamer Hydrographer, the latest addition to the surveying vessels of the United States Coast and Geodetic Survey, has just been completed and turned over to the Survey by the builders, and is now at work in Chesapeake Bay collecing data for the second edition of "U. S. Coast Pilot. Atlantic Coast, Part VI, Chesapeake Bay and Tributaries." This efficient little steamer was built by the James Reilly Repair and Supply company, of New York and Philadelphia, who were the only bidders for the vessel at the amount appropriated. She is 101 feet long, 19½ feet beam, 9½ feet depth, and has a mean draught of 5½feet when full of coal and water. Her net tonnage is 97.26 tons. For her size she is probably the most efficient steamer afloat, as she carries coal enough to steam 1,600 knots at a speed of 10 knots, and easily makes 11 knots.

A Roberts boiler of 250 horse-power supplies steam at 250 pounds pressure to the engine and 100 pounds pressure to the auxiliaries; all exhast steam bing trappd to avoid a waste of fresh water.

She is propelled by a four-bladed screw 4 feet 8 inches in diameter, with 7 feet 8 inches pitch, which made 240 revolutions on the trial trip. and when running 10 knots makes 200 turns.

The Hydrograpner embodies some new features for so small a vessel; she carries one 26 foot whaleboat, one 20 foot whaleboat, and a 13 foot dinghev. all of which stow on deck in heavy weather. As she is liable to be sent through inland water and canals, guards extend along her sides to protect the boat davits; Baldt stockless anchors of 550 and 750 pounds do duty for the cumbrous anchors and gear usually seen on the bows of vessels.

The present work of the vessel is the collection of data for the correction and revising of the Coast and Geodetic Survey Coast Pilot of Chesapeake Bay and Tributaries. and includes informaion relating to pilots and where they may be found, best and usual anchorages, depths in the channels, repair and supply facilities, quarantine, harbor and anchorage regulations, and sailing directions. All sailing directions are checked by running the courses with the vessels, and remarks are added relating to lights, buoys and prominent features which may be of use to the navigator in following the directions. Tables of lights and fog signals. tides, reporting storm warning display stations, etc., are included, also the available data relating to tidal currents.

AN AMERICAN ENGINEER IN RUSSIA.

William McCarroll, type of the American engineer who does things, went to Sergieff, Russia, to set a consignment of Baldwin locomotive. He found them in parts, filling countless boxes dumped in the snow. A little railroad ran half way to the main line on which the engines were to run. The interval was a hummocky waste. The thermometer was 20 degrees below zero. One by one from the sparse hamlets of the region he picked up 125 Russian peasants; hoisted his boxes with ropes and primitive pries upon flat cars; ran the cars to the rail head, and scrutinized the steppe before him; ridges, gullies, holes and hills —with massive locomotive boilers to be transported across them. From the scant materials at hand he made a great sled, piled snow upon it and rolled a boiler in the snow. Half of the hundred peasants hauled on a long rope, the other 50 went ahead constructing trestles over the gullies and cuts through the iron soil of the hillocks. Day after day in the biting cold the human pack animals dragged these locomotive parts until all had reached the workshop—a frigid Russian hillside. At Philadelphia 10 engines could be set up in a day; in Russia it took 10 weeks for one.

Nor was there a holiday when the completed engines stood ready on the track. Water, which froze on the way, had to be carried half a mile and then melted. And when at last a wood fire was roaring in the fire box of the first locomotive and the engine was proudly puffing up the new track, the rails spread two miles from camp and the engine went pilot foremost down the bank. Consider the plight of a single engineer, with a locomotive on its nose in a snow bank, a few wooden levers, a rope and a gang of ignorant Slavs. But "off again" with McCarroll was "on again," if it took all the white czar's subjects to help him; for by dint of the snow shoveling and the tugging of 20 peasants the engine returned to the rails. Mr. McCarroll says the whole feat "took a little scheming." It may have been brilliant engineering.

THE SELECTION OF A STEAM BOILER.*

BY W. E. SNYDER, M. E.

The series of physical and chemical tests prescribed by the U. S. government for marine biolers is a good guide as to the quality of the material and strength of tubes, the size and distribution of stay bolts and braces and the manner of their connection; the kind of tubes and their proper expansion in the tube sheet or header. As regards the kind of tube, Mr. Seaton, in The Engineer of June 29, 1900, says solid drawn steel is better than lap-welded iron and much better than lap-welded steel, while a series of tests made by the British Naval Architects and reported in Zeitschrift des Vereins Deutscher Ingenieure of June 23, 1900, shows that tubes made from steel containing from 20 per cent to 2' per cent nickel are much superior to the common iron or steel tubes.

The design of the joints demands special attention. One point which deserves particular mention is the thickness of the plate as specified, compared with its actual thickness. The plates are sometimes rolled much thinner on the edge than the nominal thickness, owing to the wear and spring of the rolls. The vice president of one of the principal boiler insurance companies gave the writer data which he had obtained by actual measurement of plates, and which showed from 10 per cent to 30 per cent less on the edge than the nominal thickness of the plate. A joint made with the worst of the above plates would have only 70 per cent of the effective metal which the designer intended it should have. On most of the plates, however, the reduction of the edges will not be so great as this, but the best way to get the proper thickness is to insert in the specifications, after the nominal thickness, the words "measured on its thinnest edge." This will prevent any possible misunderstanding.

In water tube boilers the tube caps and bolts and nuts by which they are fastened deserve attention. The stripping of the threads or breaking of these bolts has cost more than one man his life. In water tube boilers the sweeping effect of circulation manifests itself in very curious ways. In some horizontal water tube boilers the mud and sediment will be swept up into the back ends of the upper rows of tubes, often closing them completely while the hottest part of the boiler will be comparatively clean. In other cases this dirt will deposit in the nipples connecting the back headers with the drums, thus restricting circulation, which in turn causes overheating of the upper rows of tubes with serious results in consequence. The writer has seen in ordinary two-flue and return tubular boilers deposits of loose scale and sediment directly over the bridge wall, varying in quantity from a peck to two or three bushels, while the remainder of the surface would be practically clean. The circulation in this case would be sweeping the entire boiler with the exception of directly over the hottest part of the fire, where the current would be directly upward, while the scale would be deposited in a heap, its presence frequently not being suspected until a large bag appeared in the shell.

In considering the importance of the circulation both for promoting evaporation and for preserving the heating surface it would seem essential that this particular feature be one for special investigation in choosing a boiler. The boiler ought to be of such design that circulation is free and unrestricted. Unfortunately this is a special defect in some common water tube boilers. The connections between the generating tubes in which most of the evaporation takes place, and the drums in which the liberating occurs, are so restricted in area that the circulation is throttled and the tubes become overheated and blistered very easily. This trouble is far more prevalent in some cases than in others. If the furnace is directly under the front ends of the tubes, so that the hot flame from the fine impinges directly against the tubes. or if forced blast be used or blast furnace gas—which sometimes produces the sharp effect of forced blast—the conditions are especially favorable to blistered tubes due to restricted circulation.

Another matter which merits discussion when considering the boiler as a steam generator, is that of moisture in the steam. No particular type may be designated as one which makes wet steam, though many practical men assert the contrary. Conditions of operation and not features of design produce wet steam. In some 1,200 tests of the quality of steam made by different types of boilers, the writer has found in nearly all cases the steam commercially dry or containing less than 2 per cent moisture. This will usually be found in practice, though some boilers run as high as between 2 per cent and 3 per cent. The writer has seen trials of boilers in which over 8 per cent moisture in the steam was reported, and has then tested these same boilers and found less than ½ of 1 per cent moisture present. This tends to verify the statement made above that excessive moisture is due rather to some condition of practice than design of boiler. There is no other explanation of such an abnormally high percentage of water present unless we conclude that the engineer reporting such results was incompetent.

To illustrate the cumulative saving of a good boiler plant as compared to a poor one when they are run side by side for a number of years, suppose we make the following assumptions:

Suppose a plant of 7,000 h. p. capacity, good boilers and furnaces, properly designed and erected, be operated an average of 275 days a year for 20 years; the coal consumption being 4 pounds per boiler horse-power hour, and the cost of the coal $1.50 per net ton, delivered at the boilers. Now suppose a plant of equal capacity, but of such poor type, wrong proportions and bad designs, that 5 pounds of coal are burned per boiler horse-power hour, for the same period of time and that the coal costs the same per ton. The value of the fuel wasted by the poorer boiler plant in the 20 years is $693,000—a sum sufficient to command the respect of the average business man, even at the present time.

The poorer boiler plant might be installed for about $100,000, while the better one might cost about $130,000. Now, suppose an expert engineer had had charge of the installation of the better plant and received $10,000 for his services. What does the total difference in first cost amount to when compared to total saving effected? There is simply no comparison, as the difference in first cost would be saved in little more than a year. In addition, in the poorer plant, cost for cleaning and repairs would be greater, as well as for the removal of the greater amount of waste from the furnaces.

The figures given are in round numbers and the conditions are assumed, but neither is by any means the result of guesswork. The writer has tested, and has in mind, plants where more than 5 pounds of coal per boiler horse-power hour were burned, as well as plants where less than 4 pounds per boiler horse-power hour were burned. While the boiler plant may not run 275 days every year for 20 years, yet its lifetimes will certainly be equivalent to that running time, and the total amount wasted would be the same. Seven thousand horse power is not an especially large plant. Many plants are much larger, and the waste will be in proportion to the size of plant as well as to time of operation. So that there are really no unusual conditions in the above comparison, which serve as some illustration of what the aggregate waste from a boiler plant may mean when considered for a number of years.

*Extracts from a paper presented before the Engineers' Society of Western Pensylvania, June 18, 1900.

LAKE FREIGHTS.

Grain rates have not changed. The shippers are still offering 3¾ cents from Duluth and 4 cents from Fort William, and these rates are being accepted. It is now apparent that the grain movement is to be the source of employment for the boats after the 1st of December. Rates are weak and dropping, as 3 cents was accepted on one Buffalo charter and 2½ cents is offered at Chicago, a drop of ¼ cent from last week's figures.

Vessels are more plentiful than cargoes at the upper lake ports, and the market is easier. The boom in grain freights that was looked for has flattened out, and carrying charges are lower than they were a week ago.

A number of charters have been made at 90 cents from Escanaba to Ohio ports, and at $1.05 to Buffalo. Shippers tried to charter on Monday at 75 cents, Escanaba with no takers.

A SURVEY BOAT.

Major J. G. Warren, United States Engineer in charge of the improvment of rivers and harbors on the west shore of Lake Michigan, has made a recommendation in his annual report that a steamer be provided for inspection and survey work. The cost of the boat is given as $30,000, and it is hoped to have the boat built next year.

DISCREPANCY IN FIGURES.

The Duluth coal men have expressed some surprise at the figures furnished by the local United States Engineer's office on the receipts of the anthracite variety of coal for the season of 1901 to November 1, and it has led to an investigation which discloses that an important error has been made either by the Sault officials or by the compiler in the local United States office, says the Duluth News Tribune. The local engineer's office has figures showing that to November 1, this year, the receipts of anthracite coal were 748,254 tons, while, according to the Sault officials, the total was only 657,147 tons. The discrepancy will be found all the more remarkable when it is considered that the head of the lakes receives only 81 per cent., or thereabouts, of all the hard coal coming to Lake Superior.

Assuming that the head of the lakes has received this per cent., and that the Sault figures are right, the Duluth-Superior harbor would have received to November 1 about 532,289 tons, according to the figures of the local U. S. engineer for 1900. Still further, with the Sault figures as a basis those of the local U. S. Engineers are found to be about 215,965 tons in excess of the actual.

On the other hand assuming that the figures on anthracite receipts at Duluth-Superior to November 1 are correct as reported by the local United States Engineer's office, and therefore represent about 81 per cent. of all the coal received on Lake Superior, the Sault figures for this commodity must have been in the neighborhood of 925,000 tons, whereas they are given as 657,147 tons.

The attention of Capt. D. D. Gaillard, U. S. Engineer in charge at Duluth, was called to the apparent discrepancy. He said, when the coal figures were first given out that his figures had not been checked over and he would not vouch for them absolutely until such precaution had been taken. When these statistics are finally completed it is after they have been proved and there is no chance for mistake. It is a big task and cannot be completed for some time.

The Duluth coal men have been much mystified and surprised at the aggregate size of the receipts, and their investigation resulted in the discovery of the discrepancy.

A SUBMARINE TEST.

In the presence of a number of people which assembled to witness the emerging of the submarine boat Fulton on Sunday last, that craft rose from the bottom of Peconic bay, which is at the eastern end of Long Island, with all well and greatly surprised to find there was a storm raging.

The test of the Fulton's staying powers was highly satisfactory, not only to the officers of the company that built her and the naval officers present, but to those who went to the bottom in the boat. They report there was not the slightest discomfort to them during their more than 15 hours of submersion beneath the surface.

Captain Cable, of the Holland Company, who was in command, said the boat could have remained down for three months if there was food enough on board. Although there was but six feet of water over the top of the turret, those on board felt nothing of the storm. Through the night there was a light rolling motion to the craft, but this was ascribed to the regular motion of the water and not to the disturbance which was rolling the waves high on the shore.

Rear Admiral Lowe, U. S. N., and Lieut. Arthur MacArthur refused to go into any discussion of the performance of the boat, except to say that they would be satisfied to stay down longer. Members of the crew say they experienced no difficulty in breathing, and that the air was all that could be desired, and much purer and better than in an ordinary closed room in which are several persons. Every piece of machinery worked to perfection during the night. The men ate two meals while under water and most of them obtained three or four hours' sleep.

THE marine insurance companies carrying risks on the lakes have been in correspondence over a request from Canadian western shippers that the period of insurance should be extended from December 5 to 12, so that the season of navigation could be lengthened and exporters be enabled to get their grain out of the Canadian northwest. The companies have decided to extend the season in individual cases, where exporters asking are their regular customers, and where the vessels are considered in the first class. After December 5 a higher rate will be charged. The best class of Canadian boats will have no difficulty in obtaining the extension.

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For the convenience of attorneys, clients and others interested in some closely contested case or cases involving points of maritime law, or marine or naval subjects, we give the title of a series of law treaties prepared by our Washington correspondent, Mr. George F. Ormsby, for the leading marine papers. Washington has material in Congressional and Departmental records, manuscript rulings and documents, not available elsewhere, and the RECORD has been at some pains to give its readers interpretations and vantage points not visible in the current reports, but which, gathered by a nautical expert, can sway a delicately balanced suit and make the difference of thousands of dollars. In citing them in analogous cases involving mariners' rights, they may be described as being on file in the Congressional Library, or such other library as contains them. The abbreviations following the titles below, refer to the papers in which they have been published; "C" meaning "Cleveland MARINE RECORD," N—"New York Maritime Register," P—"Pacific Coast Marine Record," G—"New York Nautical Gazette." The dates are all of the year 1901.

1. "Little known citations useful in revising treasury taxes." C. p 8, Oct 10.
2. "Interesting old records in Washington libraries. N. p 9, Oct. 19.
3. "A ship's log. Its value as evidence." C. p 8, Sept. 19.
4. "Unauthorized duties. Naval court-martial tests which discover their illegality." N. p 9, Sept. 25.
5. "Absent defendants in prosecutions under navigation laws." G. p 9, Oct. 17.
6. "A ship captain's agency." P. p 2, Sept. 18.
7. "Nautical education in Schools of Commerce." C. p 9, Oct. 3.
8. Government neglect of commercial interests." N. p 9, Nov. 6.
9. "Next door neighbors." C. p 8, Oct. 17. Continued in C. p 9, Oct. 24.
10. "Nautical terms before courts." G. p 7, June 20.
11. "For employers of seamen." C. p 9, July 11.
12. "Should professors of admiralty law be seamen?" P. p 2, Oct. 9.
13. "Maritime notice." N. p 9, Sept. 18.
14. "Registry of vessels not specified in sec. 4132 R. S." G. p 9, Oct. 17.
15. "A rule for determining barratry." C. p 8, Nov. 7.
16. "The judicial status of a ship's log-book." P. p 2, Oct. 30.
17. "A useful memorandum case." C. p 13, June 13.
18. "For admiralty and commercial law students." N. p 9, Oct. 2.
19. "Over-ruled Departmental protests." G. Aug. 22.
20. "Decayed 'safeguards' of American foreign commerce." N. p 9, Oct. 30.
21. "Forfeiture of seamen's wages." G. p 8, July 11.
22. "The independence of the ship's judiciary." N. p 9, Oct. 23.
23. "Marine Insurance. Barratry.' C. p 12, Nov. 14.
24. "Compulsory Pilotage. One step towards recovering charges for." N. p 9, Nov. 13.
25. "Liabilities of American Shipowner and seamen abroad." N. p 9, Nov. 20, 1901.
26. "Questioned Assessments of duties, import and other." N. p 9, Nov. 27, 1901.

NAVAL COURT OF INQUIRY.

The New York *Marine Journal* says that Lt. Beverly Kennon, U. S. N., was tried by a Court of Inquiry in 1824 for a public controversy with Capt. David Porter. It does not explain why, there being two parties to a "controversy," Porter was not tried too. There was no "controversy," public or private, and there was no "Court of Inquiry." On the record of the Kennon court-martial in 1824 appears the entry: "Lt. B. Kennon appeared and was arraigned on the charge and specifications thereof contained in the following letter from Capt. David Porter to the Secretary of the Navy." Porter's letter specified, not a controversy, but a publishing by Kennon, of "false and malicious statements," in the Norfolk, Va., newspapers. Those who are familiar with maritime matters know that a court of inquiry, like a grand jury, never tries any one.

Kennon's trial is interesting as the first known record of a protest which any naval "accused" found it necessary to make against being imprisoned without notice of the charges against him. Although Kennon offered to "waive" this naval requirement, on being "furnished charges" a few days after his arrest, the court-martial, while censuring his conduct, refused to find him guilty. The naval Article 38 of the Act of April 23, 1800, forbade trial except on charges "furnished on arrest." Ten years after his trial Kennon, more advanced in rank, began to look at the other side of the question, and sought to get Congress to amend the prohibitory part of article 38. It was at his suggestion that a board framed certain proposed changes in the naval articles. These were communicated to the 23d Congress, first session, by a message from the President, who requested that the statute be altered to read:

"All complaints on which an application for a court-martial is founded shall be exhibited in writing to the proper authority, signed by the party preferring the same, and shall be accompanied by a list of witnesses, and with a statement of the facts which it is expected each of such witnesses may be able to prove, and the accused shall be furnished with a copy of the complaint as soon as practicable, and shall be called upon to state what he may have to offer in explanation, and to name such persons as he may wish to have summoned as witnesses.

"The officers authorized to convene a court-martial, having received the complaint, statement and lists, shall take care that the charge and specifications are put in proper and legal form and that the accused be forthwith furnished with a copy of the same."

Congress refused to adopt this proposal, and it remains merely a monument to the wishes of naval officers of that day.

TREASURY DECISIONS.

Amendments to regulations, United States Marine-Hospital Service.

TREASURY DEPARTMENT,
OFFICE OF SUPERVISING SURGEON-GENERAL M. H. S.,
WASHINGTON D. C., November 16, 1901.

To commissioned officers, acting assistant surgeons, and others concerned:

The following amendments to the revised regulations for the government of the United States Marine-Hospital Service, approved November 29, 1897, are hereby adopted, and are now in force, viz.:

Paragraphs 71 and 156 are amended to read as follows:

Paragraph 71. The compensation of acting assistant surgeons shall be fixed by the Secretary of the Treasury, according to the extent and importance of the service at their respective stations.

Paragraph 156. When the station of an officer is changed while he is on leave of absence, he will, on joining his new station, be entitled to no traveling expenses from the place of receipt of order to his new station, unless the distance is greater than to return to his old station, and then he will be allowed traveling expenses only for the excess of distance to the new station over the distance to the old station.

Paragraph 165 is hereby declared void.

Paragraphs 403 and 404 are amended to read as follows:

Paragraph 403. The evidence of each out-patient's right to relief will be recorded in the register of out-patients, over the initials of the officer making the entry, and the certificate and papers in the case filed, except as hereinafter provided.

Paragraph 404. At stations not regularly supplied with medicines and surgical dressings for the treatment of out-patients, and at which bills are rendered for the medicines and dressings used in the treatment of out-patients, a relief certificate, on Form 1915, will in each case be made by the acting assistant surgeon in charge of the relief station, setting forth specifically the date on which under these regulations relief is granted, and this relief certificate—the facts contained therein having been recorded in the proper register of patients—will be forwarded to the Supervising Surgeon-General as soon as issued.

The nature of the relief furnished (prescriptions, medicines, etc.) will be briefly specified on the relief certificate.

Paragraphs 405 and 406 are amended to read as follows:

Paragraph 405. The evidence of each out-patient's right to relief will be recorded in the register of out-patients, over the initials of the officer making the entry, and the certificate and papers in the case filed, except as hereinafter provided.

Paragraph 406. At stations not regularly supplied with medicines and surgical dressings for the treatment of out-patients, and at which bills are rendered for the medicines and dressings used in the treatment of out-patients, a relief certificate, on Form 1915, will in each case be made out by the customs officer, or acting assistant surgeon if such officer be in charge of the relief station, setting forth specifically the date on which under these regulations relief is granted, and this relief certificate—the facts contained therein having been recorded in the proper register of patients—will be forwarded to the Supervising Surgeon-General as soon as issued. The nature of the relief furnished (prescriptions, medicines, etc.) will be briefly specified on the relief certificate.

The following paragraphs of Department Circular No. 77, June 1, 1899, entitled "Additions and Amendments to the Regulations, U. S. Marine-Hospital Service, 1897, for the Management of the Purveying Depot, New York City," are hereby amended as follows:

Paragraph 700. After the words "management of the depot" add the words "except as hereinafter prescribed."

Paragraph 709 is amended to read as follows:

He shall purchase supplies in such manner as may from time to time be authorized by the Supervising Surgeon-General, and shall issue them upon approved requisition.

WALTER WYMAN,
Supervising Surgeon-General M. H. S.

Approved: L. J. GAGE, Secretary of the Treasury.
WHITE HOUSE, November 16, 1901.
Approved: THEODORE ROOSEVELT.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, NINTH DISTRICT,
ROOM 1431 MARQUETTE BUILDING,
CHICAGO, ILL., December 2, 1901.

POSITIONS IN THE LIGHT-HOUSE SERVICE.

Notice is hereby given that applications on proper forms, will be received for thirty days from date of this notice, at the office of the U. S. Light-House Inspector, Room 1431 Marquette Building, Chicago, Ill., for the purpose of forming an eligible list from which to fill vacancies for Assistant Engineers of vessels in the Light-House Service which may occur in the Ninth Light-House District for one year from the date of examination.

The Ninth Light-House District includes Lake Michigan, Green Bay, and tributary waters lying west of a line drawn across the Straits of Mackinac, at Mackinac Point, Michigan.

Persons who wish to apply for examination for the foregoing position, should obtain the proper blank forms of application from this office, either in person or by mail, and after filling them out return them to this office. Applicants need not appear in person.

All applications received will be examined, the applicants graded according to merit, and a list of those eligible for appointment sent to the Light-House Board.

F. M. SYMONDS, Commander, U. S. N.
Inspector Ninth Light-House District.
Chairman Local Civil Service Board.

Request for Aid.—A request for aid by a vessel in distress does not authorize compensation therefor unless the aid rendered was helpful in the final saving of property The Henry Steers, Jr., 110 Fed. Rep. (U. S.) 578.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising or setting will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the sun's setting. The bearing may be taken when the sun's center is on the horizon, rising or setting. The elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Nov. 29....	E. 30° S.	= S. 5⅜ E.	= S. E. by E. ⅜ E.
Dec. 2....	E. 30° S.	= S. 5⅜ E.	= S. E. by E. ⅜ E.
Dec. 6....	E. 31° S.	= S. 5¼ E.	= S. E. by E. ¼ E.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Nov. 29....	E. 31° S.	= S. 5¼ E.	= S. E. by E. ¼ E.
Dec. 2....	E. 31° S.	= S. 5¼ E.	= S. E. by E. ¼ E.
Dec. 6....	E. 32° S.	= S. 5⅛ E.	= S. E. by E. ⅛ E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Nov. 29....	E. 32° S.	= S. 5⅛ E.	= S. E. by E. ⅛ E.
Dec. 2....	E. 32° S.	= S. 5⅛ E.	= S. E. by E. ⅛ E.
Dec. 6....	E. 33° S.	= S. 5 E.	= S. E. by E,

LAKE SUPERIOR, LAT. 48° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Nov. 29....	E. 33° S.	= S. 5 E.	= S. E. by E.
Dec. 2....	E. 34° S.	= S. 5 E.	= S. E. by E.
Dec. 6....	E. 35° S.	= S. 4⅞ E.	= S. E. ⅞ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

THE ROLLER BOAT.

Knapp's roller boat demonstrated on Moonday its ability to roll. In a snow storm, with a stiff north wind, it rolled from Prescott across the St. Lawrence river to Ogdensburg, but missed the channel to the upper harbor and rolled into the soft mud on a bar abreast the city and settled hard, surrounded by snow and ice. Efforts to tow the boat into deep water were unsuccessful, and she may not be released until spring. The inventor and stockholders, who were on board, were taken off in small boats.

The boat is 110 feet long and 22 feet diameter. An engine is suspended in a car in the center. The motive power is applied in the form of a climbing engine. Mr. Knapp says he will now build an ocean roller boat 800 feet long and 200 feet in diameter, with a capacity of 4,000,000 bushels of wheat and a speed of 12 knots an hour.

This appears to be one of the greatest crank notions that ever appeared on fresh water, yet the inventor sticks to his idea.

THE American Society in London has made arrangements for holding an American exhibition in the Crystal Palace, London, in 1902. It has secured a strong local advisory committee, headed by the Lord Mayor of London. Mr. Henry Gilman, Crystal Palace, London, has been appointed general manager, and Alfred H. Post, of New York, commissioner for the United States. The intention is "to demonstrate the immense commercial development which has taken place in the United States." The coronation ceremonies, which are to take place in June, will, of course draw immense crowds to London, and the season is considered a propitiouss one for this kind of an exhibition.

D. & C. LINE MANAGER.

W. C. McMillan, for a number of years treasurer of the Detroit & Cleveland Navigation Company, was appointed general manager to succeed the late David Carter at a meeting of the board of directors held in Senator James McMillan's office Saturday noon. The appointment of Mr. McMillan comes as somewhat of a surprise, as it was generally supposed the office would not be filled until the annual meeting in January. It is thought the appointment of Mr. McMillan as general manager is only temporary, and that at the annual meeting he will be retired in favor of some other stockholder of the line.

Mr. McMillan is a son of Senator James McMillan, and is one of the most prominent business men in Detroit.

He is vice-president of the Union Trust Company, and is a director of several banks and other leading institutions.

Senator James McMillan stated:

"Some one had to be appointed at once, and as W. C. McMillan is thoroughly familiar with the working of the company, he was the best man for the place. No changes are anticipated and things will go on the same as if Mr. Carter were still alive. Both Mr. McIntyre and Mr. Schantz will continue to occupy their present positions as general freight agent and general passenger agent respectively."

D. C. McIntyre was supposed to have the inside track for the appointment as general manager, or probably Mr. Newman, but the entire business is in the hands of the McMillans.

OPERATION OF THE NAVAL MILITIA.

Lieut. Comdr. W. H. H. Southerland, U. S. N., in charge of Naval Militia, states in his annual report that during the year but two requests were received from states for the assignment of a vessel to drill and instruct their naval militia, one from Maine, the other from New Jersey. The U. S. S. Dolphin was used in drill work for the naval militia of states bordering on the Atlantic, the U. S. S. Michigan for that of states bordering on the Great Lakes and the U. S. S. Philadelphia for the naval militia of states bordering on the Pacific. The naval militia of Louisiana took a ten days' cruise on the U. S. S. Stranger.

The painstaking manner which the work of the regular officers of the vessels carrying out the plan of the department was done reflects credit on the officers and on the service, as evidence of their interest in anything that may be of benefit to the navy.

There are naval militia organizations in 19 states, with a total enrollment of 435 officers and 4,679 enlisted men. The money allotted to these bodies last year amounted to $59,680.64.

Commander Southerland emphasizes the pressing need of a National Naval Reserve. "The advantage of such a force," he remarks, "is only too apparent when we realize how difficult it is to get men to man our vessels in times of peace. Our experience during the last war was conclusive in showing how nearly impossible it will be to get the great number of men who will be required for an expanded navy at any outbreak of war."

IN VIEW of the influence that the engineering profession will always exert on naval matters, and by reason of the fact that the modern navy is an engineering one, the only way in which the personnel law can be made to work efficiently is to interpret the measure in accordance with its spirit and purpose. The Army and Navy Journal very pertinently observes that: An implied, if not direct pledge was given the Congress, that the future naval officer should be a fighting engineer. The Navy will have to live up to this obligation. The opinion is quite general that a different interpretation of the bill from that rendered is requisite for naval efficiency. It is not possible if it were desirable to repeal the law. It is possible to amend it, however, and every student of this question must appreciate the fact that it will not require much agitation to secure a Congressional interpretation to every feature of the personnel measure that will at least satisfy in great part the engineering world.

LAKE SHIPS ON THE OCEAN.

The following is from the Nautical Gazette of New York: It was hardly thought possible some few years ago that the shipyards of the Great Lakes would be able to turn out steamers for use on salt water. The plants situated along the seacoast were supposed to be better equipped for this class of work than were the yards on fresh water. And while the equipments of the coast yards have been all that could be desired and the various establishments were ready and willing to undertake orders for any type of ocean craft yet but few typically modern steel freight carriers have been built in recent years for coasting and deep sea service in the shipyards lying adjacent to the Atlantic. Capitalists have not been lured toward the sea for investments in ocean tonnage, especially for long voyages. What vessels have been built for coastwise work have been of the combination passenger and freight type for regular lines and powerful tugboats and wooden barges and schooners for coal carrying. However, since the completion of the Canadian canals at various points along the St. Lawrence river has made it possible for steamers of about 3,000 tons to navigate under their own steam between the Great Lakes and the seacoast many freighters have been built in lake shipyards and sent to the Atlantic by enterprising owners. And the list of these is greater than one might suppose if he relies upon his memory. The first fleet which came here were vessels that had seen from three or four to 15 or 20 seasons' work on the lakes. Some of these have been lost, but most of them are running still in the coal carrying business, and are performing with excellent satisfaction. The newer boats—built on lake models—but more especially adapted to ocean work, are meeting with good success and appear to be well adapted to salt water service. Three lake built steamers—the Meteor, Tampico and Eureka—went to the Pacific coast in the summer and are now running on a line from Puget sound to the Hawaiian islands. This is surely a good enough test of their seagoing qualities.

Collision—Steam and Sailing Vessels—Duty of Steamer.—While the statutory rule requiring a steam vessel to keep off the course of a sailing vessel is modified where the steamer cannot obey it without serious peril to herself or other vessels, she is not justified in disobeying it until she has resorted to all other practicable means, not only to escape the danger after it is known, but to anticipate and provide against it. The Devonian, 110 Fed. Rep. (U. S.) 588.

Rights of Charterer—Risks Incident to War.—The liability of a time charterer of a ship to the owner is not different because by reason of the breaking out of a war after the execution of the charter, the risk to the vessel is increased, such risk being that of the owner; nor is the charterer bound to employ the vessel in the safest business, but he may employ it in any business which is lawful, and not in violation of the charter. The Ely, 110 Fed. Rep. (U. S.) 563.

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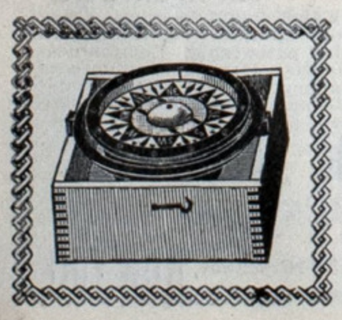

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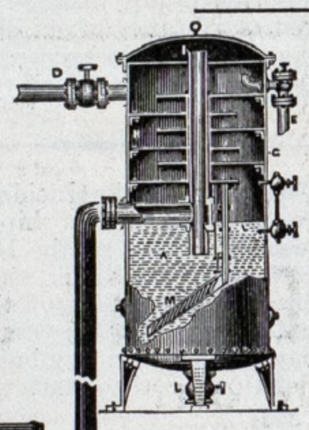

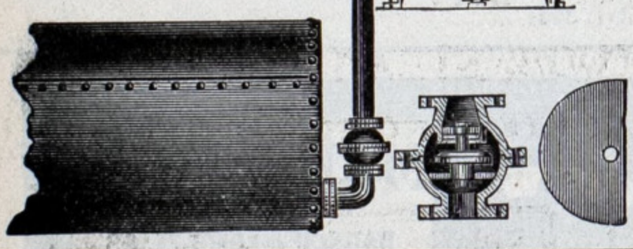

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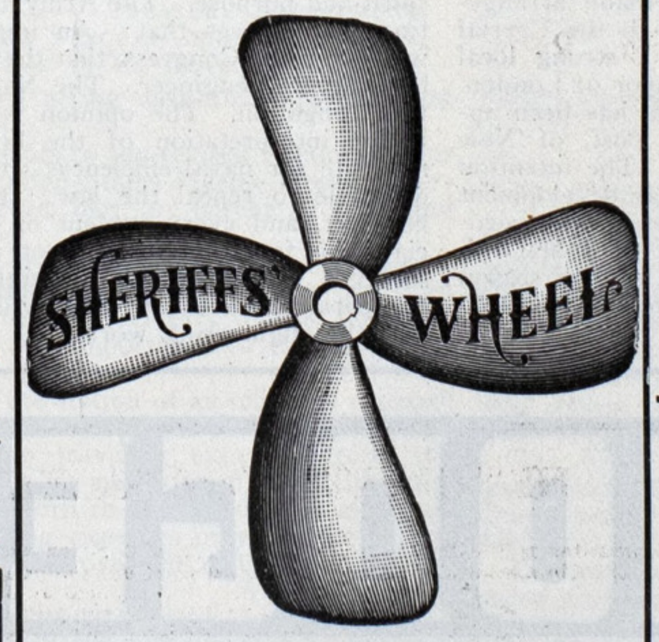

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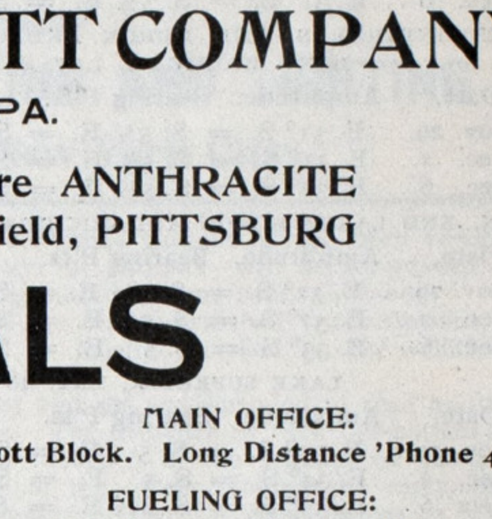

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FRENCH SHIPPING SUBSIDY.

The French Chamber of Deputies has devoted three more sittings to the discussion of the Mercantile Marine Bill. The first clause giving to vessels built abroad the benefit of a "compensation d'armement" was assailed by certain deputies in the interest of the shipbuilders, and two amendments were moved with the object of modifying the effect of the clause in case it should be voted. The first amendment had for its object to limit the gross tonnage of foreign-built steamers claiming the "compensation" to 200,000 tons, and the tonnage of new French-built steamers claiming the navigation bounty to 300,000 tons. The other amendment proposed to withhold the benefits granted by the new bill from all steamers in active employment previous to the passing of the bill. The main feature of the resumed debate was the speech of M. Thierry, the "reporter" of the bill. He remarked that every one agreed with the policy of increasing the navigation bounty for steamers and diminishing the same bounty for sailing-ships, and that it was only on the question of granting the "compensation" that disagreement arose. This fact induced the Budget Commission to come to the conclusion that French shipbuilders had been enjoying a monopoly, and that every monopoly was disposed to take its own interests into account exclusively. If, added the speaker, a Frnch shipowner goes to a foreign builder it is because he cannot obtain such advantageous terms with respect to price and quick delivery from French builders. In fact, it is not always possible to find the kind of vessel wanted without going abroad. Shipowners must be encouraged to purchase new vessels, and the proposed "compensation d'armement" will afford such encouragement. M. Thierry went on to show how few steamers were built in France; only three were built at Havre from 1896 to 1900, and three others in 1900. Shipowners must therefore be put in a position to buy vessels when desirous of competing with rivals. It was evident that French shipbuilders wanted to make great gains by doing as little as possible, and their attitude towards shipowners was repulsive. Consequently shipowners naturally looked abroad, where they could obtain vessels cheaper—often at half the price. They ought to be encouraged in this. After pointing out the desirability of facilitating the acquisition by French shipowners of large steamers from the point of view of national defence, M. Thierry approached the financial side of the question, and stated that, according to the calculations of the Government, the adoption of the bill before the Chamber would result in a large saving for the taxpayers. He concluded his speech by declaring that the propsed "compensation d'armement" was more democratic and more honest than the half navigation bounty granted to foreign-built ships by the law of 1881, and the result of its adoption would be the immediate creation of steamship lines. "It will give," added the speaker, "an impetus to the shipping trade, and also to the shipbuilding industry. In the friendly rivalry of the peoples we must see to it that the French flag is exhibited on all the seas by the side of the flags of other nations. Our agricultural, as well as our commercial, interests are at stake." Among the subsequent speakers, one deputy opposed the bill "because it deprived French shipyards not only of building orders, but of repairing work, and would have the result of closing most of them in a very short time." Another speaker moved an amendment to the effect that all bounties should be abolished and a public department be organized for the control of shipbuilding and merchant shipping, and after a few more deputies had addressed the Chamber the "general discussion" of the bill was closed. The amendment for the establishment of a public department to control shipbuilding and shipping was then put to the vote, and rejected by a large majority, and the discussion of the separate clauses commenced. On Clause 1, the following amendment was brought in and backed by several deputies: "All bounties on foreign-built vessels are, and remain, abolished, and no compensation or protection is granted for vesels built abroad." The amendment was adopted by 256 against 235 votes. An amendment was moved, the effect of which was to restore the bounties on French-owned ships built abroad—which the previous amendment had abolished—provided that such vessels were owned by French subjects or by Frenca companies with a French board of management. M. Castelin spoke in defense of his amendment, which was supported by M. Millerand, and ultimately adopted by 272 votes against 255.

Tug and Tow—Cutting Tow Adrift in Storm—Liability of Tug.—Evidence considered, and held sufficient to establish the claim that the action of an ocean tug in cutting adrift her tow, consisting of a dredge, four scows loaded with coal, and a water boat, during a moderate gale while off Cape Cod, and allowing them to drift on shore without any further effort to save them, was without necessity or justification, and rendered her liable for the loss. The O. L. Halenbeck, 110 Fed. Rep. (U. S.) 556.

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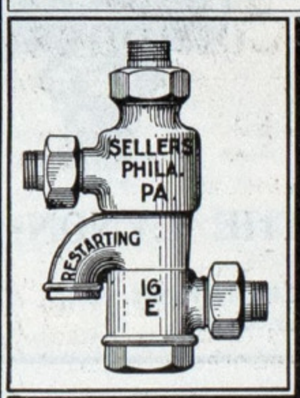

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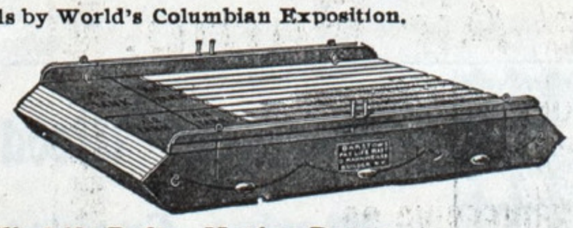
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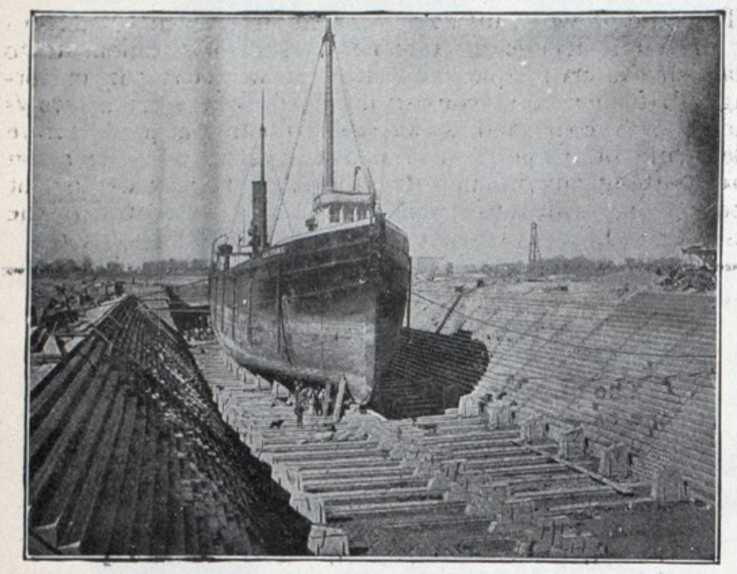

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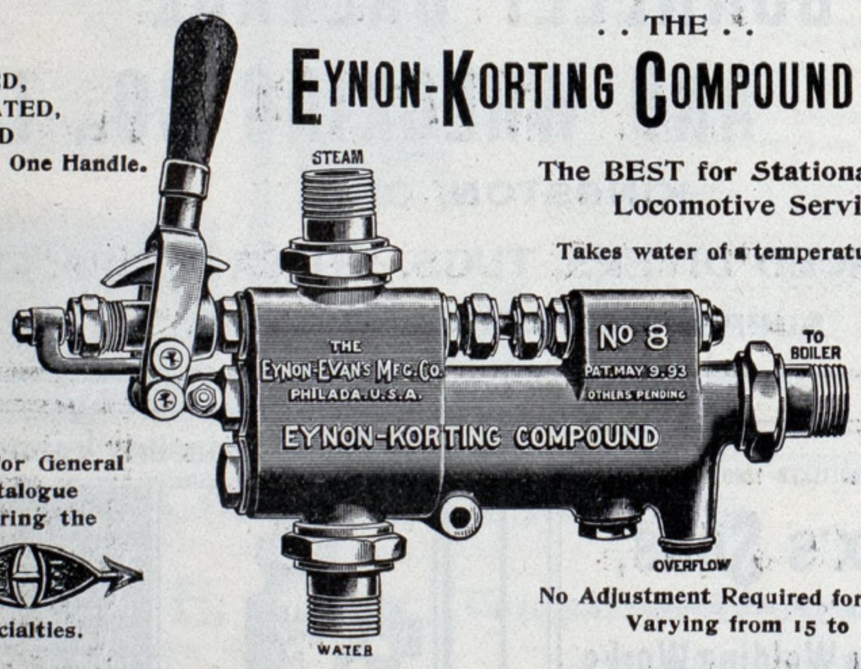

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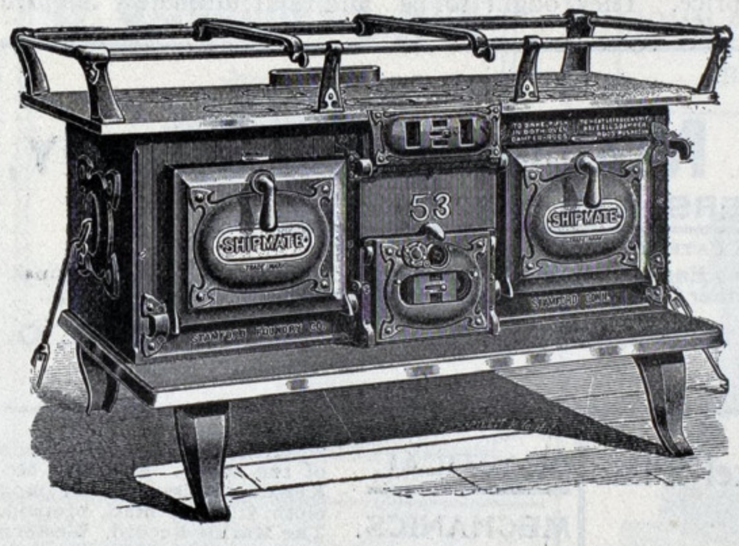

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